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EIGHTH ANNUAL REPORT

OF THE

STATE BOARD OF HEALTH

OF

ILLINOIS.

WITH AN APPENDIX

EMBRACING

A.—Report on Disinfection and Disinfectants.
B.—Coast Defenses against Asiatic Cholera.
C.—Report of Proceedings, Sanitary Council of the Mississippi Valley.
D.—Meteorological Tables.
E.—State Sanitary Survey and House-to-House Inspection.
F.—Vital Statistics of Illinois, and Coroners' Inquests.
G.—Medical Education in the United States and Canada, 1765-1886.

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EIGHTH ANNUAL REPORT

OF THE

STATE BOARD OF HEALTH OF ILLINOIS.

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ILLINOIS STATE BOARD OF HEALTH.

OFFICE OF THE SECRETARY,
SPRINGFIELD, ILL., 1886.

To His Excellency, RICHHARD J. OGLESBY, *Governor:*

SIR: In conformity with the Twelfth Section of an Act to Create and Establish a BOARD OF HEALTH in the State of Illinois, approved May 25, 1877, I have the honor to submit to you the accompanying Report for the year 1885.

Very respectfully,
JOHN H. RAUCH, M. D.,
Secretary.

MEMBERS OF THE BOARD.

Newton Bateman, LL. D., Galesburg, *President.*
A. L. Clark, M. D., Elgin, *Treasurer.*
W. A. Haskell, M. D., Alton.
W. R. Mackenzie, M. D., Chester.
G. N. Kreider, M. D., Springfield.
R. Ludlam, M. D., Chicago.
John H. Rauch, M. D., Chicago, *Secretary.*

Frank W. Reilly, M. D., Chicago, *Assistant Secretary.*

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SUMMARY REPORT OF THE BOARD.

To His Excellency, Richard J. Oglesby, *Governor.*

Sir: A much greater share of the labor of the Board during the past year has been devoted to purely sanitary work and to efforts in the field of preventive medicine than ever before. This has been made possible by the practical success which has attended the discharge of the duties devolved upon the Board by the Medical Practice Act, and was made necessary by the threatened extension of Asiatic cholera from Europe to this country.

Legislation concerning the public health in this State, although not yet perfect in its details, is founded upon principles whose soundness, it is conceived, has now been practically demonstrated. Through the operation of the Medical Practice Act not only are the incompetent and unprincipled excluded from the practice of medicine, but there has been a general improvement in the standard of attainments which has already gone far toward placing the medical profession of Illinois, as a whole, on a higher plane of practical usefulness, all things taken into the account, than that of any other State in the Union—and this not only in curative but also in preventive medicine.

A former President of this Board has justly said that "It is to the credit of the medical profession that, in invoking the authority of the State in behalf of the public health, and in exercising the powers granted the State Board, the first efforts have been directed to reforming the medical corps of the State by seeking to cast out ignorance, pretension, incompetence and all manner of quackery. Through the work of the Board the profession has deliberately said to the people: Your greatest danger is from ignorance and the iniquity of pretending and unscrupulous physicians, and we have sought and are seeking to protect the people at this point, by subjecting the qualifications of all persons desiring to practice medicine to reasonable and satisfactory tests." And again: "The exclusion of ignorant, fraudulent or unscrupulous pretenders from the profession, the pressure brought to bear upon the colleges in behalf of better education, the systematic study of the principles of sanitation and quarantine—all these things must advance science, whether that end is contemplated or not."

These things have advanced sanitary science in such a practical manner that—as shown in the section of the Appendix to this Eighth Annual Report, devoted to the Sanitary Survey of the State, pp. 85–282—a total of over 300,000 houses [and premises were inspected in 395 cities, towns and villages in 96 of the 102 counties of the State, between the middle of March and the last of December, 1885. These inspections embraced every material condition affecting health, individual and public—site of house; its age, material, ventilation; condition, especially of basement or cellar, of cesspools, sinks, drains, outhouses and water supply; of the yard and stables, barns, etc.; the vaccinal status of occupants, the occurrence of certain diseases, etc., etc—and resulted in disclosing, in 382 places from which reports had been received at the close of the year*, a total of 474,831 defective conditions and nuisances prejudicial to health, of which number 441,593, or over 90 per cent., were reported abated or remedied at the close of the year. A summary of these facts will be found on pp. 104–107 and pp. 115–118.

The total cost of these inspections is estimated at about $50,000 for everything except the work actually done or caused to be done by the house-holder, tenant or owner; in Chicago it was a little less than 17 cents for each inspection, including pay of inspectors, wages of laborers, hire of teams, cost of disinfectants, printing, stationery, etc.

The death-rate from the filth diseases in Chicago was reduced 15 per cent. last year, and the Health Commissioner, Dr. De Wolf, says: "There can be no question that much of this decrease in the preventable mortality was due to the house-to-house inspection and kindred efforts which were made possible through the special appropriation in anticipation of cholera."

It is believed to be entirely within bounds to say that at the close of 1885 the State was in a generally cleaner and, consequently, healthier condition than any equal population had ever before been at the same period of occupancy of the soil.

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*Exclusive of Chicago, detailed separately—pp. 118-125.

Early in June the Sanitary Surveys of Cities and Towns was begun—the house-to-house inspection having been resumed in the extreme southern portion of the State as soon as the weather permitted, and being, by this time, successfully prosecuted throughout its entire area. As is said elsewhere, these surveys were at first largely tentative and experimental; but they were the means of discovering, in many cases, a multitude of defects and evils the dangerous importance of which had been overlooked, or whose existence had not been suspected. They gave a distinct impetus to the house-to-house inspections. They aroused communities to the importance of their sanitary conditions. The series of circulars prepared by the Secretary, and the Schedule of Questions—revised from that originally prepared by a committee of twenty-eight prominent sanitarians under the direction of the American Public Health Association—were, in not a few instances, the first sanitary instruction to receive a practical application.

The survey includes all the data necessary to a complete description of the city or town as to its location, population and climate; topography; water supply; drainage and sewerage; streets, alleys and public grounds; habitations; gas and lighting; disposal of garbage and excreta; markets and food supply; slaughter-houses and abattoirs; manufactories and trades; hospitals and public charities; police and prisons; fire establishments; cemeteries and burials; public health laws and regulations; municipal officials; registration and statistics of deaths and diseases; municipal sanitary expenses; and public schools—the whole embracing nearly 600 separate questions grouped under 19 general heads. Among the places which completed this survey and forwarded it in season for publication in the present volume are the cities and towns of Pullman, Quincy, Litchfield, Canton, Morris, Lemont, Edwardsville, Bushnell, Carlyle, Greenville, Sparta, Virden, Carthage, Camp Point, Oregon, McLeansboro, Nokomis, Clayton and Equality.

It is regretted that the maps, plats and diagrams which accompany many of these Surveys could not be reproduced in this report. The plans of school houses and premises are especially valuable and instructive.* Special attention had already been directed to the condition of the public schools by a circular addressed to County Superintendents of Schools early in April. The text of this—as also of one addressed to County Clerks, County

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*Those from Quincy, Bloomington, Pullman, Canton, Bushnell, Litchfield, Edwardsville, Carlyle, Sparta, McLeansboro, Lemont and Highland are deserving special mention.

Commissioners, Township Supervisors and officers in charge of county and town institutions, court houses, jails, almshouses, etc.—will be found on pages 100–103.

It seems proper, in closing this reference to the most important sanitary work yet accomplished in the State, to recall that it was foreshadowed as early as October, 1883, when the Board took action upon the preliminary inspections made by the Secretary during the summer of that year. These inspections embraced certain conditions threatening the public health of a large section of the State, and which had acquired additional importance from the spread of Asiatic cholera abroad and the possibility of its transportation to the United States, as in all previous European epidemics of the disease. The work then begun was followed up on a gradually widening scale until it finally developed into the systematic house-to-house inspection and the beginning of the Sanitary Survey of the past year.

The Board fully endorses the language of the Secretary in closing his comments upon the State Sanitary Survey, to-wit:

> With such a showing of results accomplished during the first year, it is an obvious duty to continuously prosecute this effort until the entire area of the State has been thoroughly covered. It is not too much to say that the people of this commonwealth are, taken as a whole, probably in advance of those of any other State in the Union in practical sanitary matters. They have responded to every effort of the State Board with a unanimity, intelligence and promptness without which the results would have been impossible—without a fore-knowledge of the existence of which it is doubtful if the effort would have been attempted. With such support the Board would be clearly derelict if it failed to push its sanitary labors to the utmost in whatever tends to promote the health and protect the life of the citizens of the State.†

While this work of putting the State in the best condition within its own borders was being thus pushed by the citizens, by communities and municipalities, provision was also made for guarding against any introduction of the disease, by defining a system of border quarantine inspection. For this purpose the XXXIVth General Assembly made a contingent appropriation of $40,000, to be used, in the language of the law, "upon the recommendation and advice of the Board, in case of the outbreak or threatened outbreak of any epidemic or malignant disease, such as Asiatic cholera, small-pox, yellow fever, or to defray the expense of preventing the introduction of such diseases, or their spread from place to place within the State, and in suppressing outbreaks which may occur, and in investigating their causes."

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†See Appendix, page 282.

In the event of such outbreak, or threatened outbreak, quarantine-inspection stations would be established at twenty-four designated points of entrance of important railroad lines along the eastern and southern boundaries of the State, and at points upon the Ohio and Mississippi rivers—or at so many of these as might be necessary—for inspecting, quarantining, disinfecting, caring for cases of the epidemic disease, etc.

At the meeting of the Sanitary Council of the Mississippi Valley—see pp. 61-75—similar action was urged upon the health officials of neighboring States. It was urged that her commercial interests, geographical relations, and position as the great entrepôt and distributing point for immigrants to all parts of the Valley, make the health conditions of every part of the country, from the St. Lawrence to the Rio Grande, matters of direct concern to Illinois. Satisfactory action was taken by the Council upon this recommendation, and thus another step was taken in perfecting the protection of the State against an epidemic of imported contagious or infectious disease.

Finally, at the July, 1885, meeting of the Board, the Secretary was instructed to inspect the methods of quarantine of the Louisiana State Board of Health, and their actual operation at the stations below New Orleans; and that he extend his inspection of quarantine methods and regulations to such other ports and places as he may deem necessary in the interest of the public health of the State, with especial reference to the exclusion of Asiatic cholera and small-pox.

The report of this inspection, under the title "Coast Defenses against Asiatic Cholera," will be found in the Appendix, pages 19-57. It embraces a description of the quarantines maintained upon the Atlantic and Gulf coasts from the St. Lawrence to the Rio Grande—their locations, equipments, rules and regulations, efficiency, etc., etc. It is reassuring to learn that these outer defensive lines, even with some defects and weak places, are believed to be sufficiently strong to keep out foreign pestilence if proper vigilance and thoroughness be exercised by those in charge, if all the facilities be utilized, and if the National Government coöperate by giving timely notification of threatened danger. It is gratifying, also, to know that this inspection was not only permitted, but was cordially welcomed at almost every point, and that it has already resulted in good in many ways.

Attention may also be invited, in this immediate connection, to the following subjects embraced in this volume:

I. A report on Disinfection and Disinfectants, prepared—in response to a request for a plain, practical paper on these subjects for popular use and distribution—by a committee of the American Public Health Association, including some of the most eminent chemists and practical sanitarians in the country. This report—pp. 6-16, of the Appendix—is believed to embody the latest results of scientific study and investigation of disinfectants, antiseptics and germicides in their relations to preventive medicine and sanitation. A table of these agents has been formulated, based, primarily, upon their specific virtues, facility of application, and economy of use.

II. A contribution to the study of the problem of the Chicago Water-Supply and Sewage Disposal—pp. cxvi-cxxviii, of the Report proper. This consists of the first instalment of a series of systematic observations—begun July 17, as to certain data, and September 5, as to other, and to be continued for a year. The work has been undertaken not alone with reference to Chicago and suburbs, but also in the interest of the canal and river towns as far south as Peoria; and involves the two important factors of preserving the purity of water supplies, and the inoffensive disposal of the sewage and wastes along the entire distance of 160 miles. Examinations of the water supplies of all the cities, towns and villages of the State have also been begun.

III.—A report on the Vital Statistics of Illinois for 1885, pp. 285-366 of the Appendix. Notwithstanding that returns of deaths continue to be unsatisfactory and incomplete, sufficient data have been obtained to warrant an estimate of a little over 14 per thousand as the death-rate for the year. This low death-rate is to be attributed to the absence of epidemic diseases and the effect of the sanitary work upon the public health. Some interesting data concerning Coroner's Inquests will be found appended to the section on Vital Statistics—see pp. 367–374.

In connection with the public health, investigations have been made into the origin of small-pox outbreaks, and valuable facts concerning vaccination are recorded on pages xxxvii–xl, cviii–cxi. Also with reference to glanders in the human subject, pp. xix, l–lii; trichiniasis, pp. xix, cxv; and hydrophobia, pp. cxv-cxvi. An exhaustive examination of cases of poisoning at Momence, in Kankakee county, resulted in determining the cause to be the cadaveric alkaloids called ptomaines, produced in the decomposition of animal tissues—see pp. lx-lxv.

At the close of the year there were, in round numbers, 6,000 practitioners of medicine in the State. The Official Register, since published and revised to February 10, 1886, contains the names, addresses, etc., of 5,915, to which are to be added some 150 others, exempt from the clause requiring certificates. Of this number 454 were added during the year; 114 applicants for certificates failed to comply with the law and were refused; and the certificates of eight practitioners were revoked for unprofessional and dishonorable conduct. Further information concerning these matters, as well as the volume of office work, financial statements, etc., will be found in the Secretary's yearly summary, pp. lxxi–cxxx.

The annual report on Medical Education and Medical Colleges in the United States and Canada, 1765-1886, forms the final section of the Appendix, and is believed to be now the most complete compendium of these subjects that has yet been produced. An immense amount of painstaking labor has been bestowed upon this report, the value of which increases with every successive edition. No attempt is made to here summarize what is in itself a condensed summary of data.

Very Respectfully,

Newton Bateman,
R. Ludlam,
A. L. Clark,
W. A. Haskell,
W. R. Mackenzie,
Geo. N. Kreider,
John H. Rauch.

ABSTRACT OF PROCEEDINGS

OF THE

ILLINOIS STATE BOARD OF HEALTH, 1885.

ABSTRACT OF THE PROCEEDINGS

OF THE

ILLINOIS STATE BOARD OF HEALTH

AT THE

MEETINGS DURING THE YEAR 1885.

ANNUAL MEETING, SPRINGFIELD, JANUARY, 1885.

The Eighth Annual Meeting of the State Board of Health of the State of Illinois was held in the office of the Board in the Capitol building at Springfield, on Thursday, January 15, 1885. Present: Newton Bateman, W. A. Haskell, W. R. Mackenzie, Geo. N. Kreider and John H. Rauch.

After the reading and approval of the minutes of the previous meeting—November, 1884—the Secretary moved that in view of the expiration of the term of one of the members, the regular order of business, including the election of officers, be suspended, and that when the meeting adjourns, it stand adjourned to February 5th, prox. Dr. Haskell seconded the motion, and it was so ordered.

The Secretary presented the case of Dr. George William Bock, of Quincy, which was investigated at the November, 1884, meeting, and action then postponed on motion of the Secretary. Further correspondence with the Dean of the University of Göttingen and other evidence were submitted, which left do doubt that the diploma of the University, presented by Bock, had been fraudulently obtained. In view of this state of facts the certificate No. 5290, issued to Bock January 7, 1882, was, on motion of Dr. Mackenzie, ordered to be revoked, on the ground of "unprofessional and dishonorable conduct," within the meaning and intent of the statute.

At the evening session of the BOARD, the Auditing Committee reported that it had examined bills to the amount of $2,583.77, found them correct, and recommended that they be paid.

Correspondence in a number of cases under the Medical-Practice Act was submitted by the Secretary, and at 9 o'clock p. m. the BOARD adjourned as per motion previously adopted.

ADJOURNED MEETING, SPRINGFIELD, FEBRUARY, 1885.

Pursuant to adjournment from the annual meeting the State Board of Health met in its rooms in the Capitol building at 10 o'clock a. m., Thursday, February 5, 1885. Present: Newton Bateman, R. Ludlam, A. L. Clark, W. A. Haskell, George N. Kreider and John H. Rauch—the President, Newton Bateman, in the chair.

The minutes of the regular quarterly meeting, January 15, were read and approved; and the regular order of business being dispensed with during the first day's session, the Board proceeded to the election of officers for the ensuing year, with the following result:

The Hon. Newton Bateman, LL.D., Galesburg, President.

A. L. Clark, M. D., Elgin, Treasurer.

John H. Rauch, M. D., Chicago, Secretary.

W. A. Haskell, M. D., Alton, and W. R. Mackenzie, M. D., Chester, Auditing Committee.

On Friday the regular order of business was taken up and the Secretary presented his quarterly report and annual summary. The text of this—concerning the work of the Secretary's office during the quarter and the year; the publications of the Board; certificates and licenses; medical education; the medical-practice act, and the cases of Funk *alias* Talbot, Lambrecht *alias* Luders *alias* Lambert, Lucas R. Williams *alias* Dr. Lucas and George J. Williams; the public health and a report on glanders, and on the preparations for Asiatic cholera—has been already published in the Seventh Annual Report of the Board (pp. xlv—lii).

The concluding portion of the Secretary's report is as follows:

The preparations in our own State [in anticipation of cholera] are in a satisfactory condition of forwardness. Much work in the abatement of nuisances and general cleaning up has already been done. But more importantly than this, the public mind has been aroused to the necessity for the work, and, to a great extent, instructed in its methods. The blanks and schedules for the general sanitary survey of the State are being prepared and will be distributed, with the necessary instructions, in season to resume operations as soon as the weather will permit.

I have also prepared, and will submit to the Board at this session, an estimate for the efficient quarantine of the State, should such a measure become necessary through the introduction and spread of cholera in the region east or south of us. This estimate embraces the probable cost of maintaining inspection stations, providing for the sick, disinfection, etc., at 24 points of entrance of important railroad lines along the eastern boundary of the State, and at the necessary points on the Ohio and Mississippi rivers, as well as for defraying the expense of the necessary measures for preventing its spread from point to point within the State, should the disease be introduced.

This estimate was submitted to Governor Hamilton, and is referred to in his message to the General Assembly in the following terms: "A very important subject for the consideration of the General Assembly presents itself in this connection. Asiatic cholera has, during the past year, made fearful ravages among the population of European countries, especially in Spain, Italy and France. According to the usual history of this scourge its course runs westward around the world. The chances of its reaching this country next summer are very great, and its frightful visitation to the United States can only be prevented by extreme vigilance on the part of both the National Government and the States of the Union in enforcing thorough quarantine and sanitary regulations. The State of Illinois should be thoroughly prepared to meet this contingency through the agency of its Board of Health, under proper regulations, and equipped with an adequate appropriation to meet all emergencies. To completely quarantine the State of Illinois and protect it all along the eastern, southern and northeastern frontiers by systematic inspection at railroad crossings and boat landings would, in the estimation of the Secretary of the Board of Health, cost from $80,000 to $85,000, if this State were acting alone in the matter. But I take it for granted that the National government will do its whole duty in the matter, and that other States east of us will co-operate in protective measures, so that a much less sum will have to be provided by this State for the contingency. Therefore, I suggest that a contingent appropriation of $40,000 be made, subject to the order of the Board of Health, to be used on approval of the Governor only in case of approach of cholera or other ravaging disease threatening the lives and health of large portions of the people of the State."

If the assumptions "that the National government will do its whole duty in the matter, and that other States east of us will co-operate in protective measures," prove to be well founded, the smaller sum will, in all probability, be sufficient. But there is no present assurance of either of these conditions; and if the pestilence effects a lodgment amongst us it will probably not be until after the General Assembly has adjourned, when it will be too late to increase the amount.

No dollar of any contingent appropriation made for the work of this Board has ever been expended without the clearest necessity therefor; and whatever sum was not absolutely required for the protection of the public health in the manner specified, has always been covered back into the treasury. More than one-third of all such appropriations have been thus returned unexpended. In this fact is found sufficient warrant for making any appropriation intended for contingent use adequate to the possible extent of the anticipated contingency. If the contingency does not arise the appropriation cannot be used; and in any event only so much may be used as the extent of the contingency demands.

Sanitary Condition of State Institutions:

In connection with my inspection of State institutions with reference to the advent of cholera, among other matter the sewerage of the Joliet Penitentiary has received attention. The sewage and wastes of some 2,000 persons and the drainage of the enclosure are carried from the buildings and through the penitentiary grounds in a two-foot sewer; but a short distance beyond, the contents empty into an open ditch about half a mile long, and through which the sewage is conveyed into the upper basin. Aside from the sewer gas, which is forced into the penitentiary buildings by winds from the southwest, the open ditch and the additional pollution of the upper basin are sanitary nuisances which should be abated as speedily as practicable.

Since the inspection was made some relief has been obtained by the use of disinfectants, which have been liberally applied at my suggestion; but this method of treatment is inadequate, and temporary. The obvious remedy, and the only one which will meet the sanitary requirements, is the construction of a continuous sewer from the penitentiary termination to some suitable point of discharge on the river. An estimate, with a profile of the line of such sewer to empty into the river below Adams' dam, has been made at my request by Mr. J. M. Pierce, the city surveyor of Joliet. This contemplates 10,700 ft. of pipe sewer, 2 ft. by 2½ ft. in diameter, at a cost of $26,450, or of stone, with a cross section of 30 inches, at a cost of $32,100. This plan would probably need to be modified, both as to the point of discharge and the dimensions of the sewer; and, if ultimately adopted, the cost should be borne equitably by the interests involved, namely, the State, the city of Joliet, and the neighboring manufacturing industries.

It is suggested that prompter relief may be obtained—though not so radical or permanent as by the plan of a continuous sewer—by excluding from the present ditch the volume of water, some 5,000 cubic feet per minute, taken in by the Rebling paper mill. Or, if there are property rights in the way of such action, the same end might be attained by carrying the flow of the ditch from a point above this mill into the basin below the upper dam. The distance is about 400 feet and the fall of 40 to 50 inches in this distance would materially improve the flow from the sewer outlet, and to this extent afford relief from the existing objectionable features.

There are certain inherent conditions of the disposal of penitentiary wastes which complicate this question in other ways. A more abundant water supply, for example, is especially desirable in this case, if not indispensable to the prevention of more or less local nuisance.

As also connected with the sanitary condition of the State institutions disclosed during my inspection, the need of a hospital building at the Asylum for Feeble-minded Children at Lincoln was noted. Such a structure, entirely separate from the main building and so arranged as to be used for an isolation hospital for contagious diseases when necessary, is imperatively demanded by the present crowded condition of the institution and from past experience. An epidemic of scarlet fever less than two years ago resulted in fifty cases and six deaths among the children, besides extending to several attendants, when there is every reason to believe the disease might have been greatly limited had there been the necessary facilities for the proper care of those first attacked. A cheap frame structure, detached from the main building, and suitably equipped, should be provided as soon as practicable.

JOHN H. RAUCH, Secretary.

On motion of Dr. Clark, the Secretary's report was received and ordered published in the report of the proceedings. The suggestion concerning an amendment of the Act concerning Corporations was referred to the committee on legislation, and the remainder of the report to a special committee consisting of Drs. Haskell, Ludlam and Clark.

The rest of Friday's session was devoted to a discussion of the plans and preparations for resisting the threatened invasion of Asiatic cholera, during which the Secretary submitted the following estimate of the probable cost of guarding the State against the introduction of the disease, and of preventing its spread from point to point within the State should it be introduced:

LINES OF TRAVEL TO BE COVERED.	BY INSPECTIONS AT OR NEAR.	PROBABLE COST.
Baltimore and Ohio Pittsburg and Ft. Wayne Lake Shore and Michigan Southern	South Chicago	$9,000
Michigan Central New York, Chicago and St. Louis	Hammond	5,000
Pittsburg, Cincinnati and St. Louis Grand Trunk Louisville, New Albany and Chicago	Lansing	6,000
Cincinnati, Indiana, Chicago and St Louis Wabash, St. Louis and Pacific	Sheldon	3,000
Lake Erie and Western	Hoopeston	1,000
Wabash, St. Louis and Pacific Wabash, St. Louis and Pacific Indiana, Bloomington and Western Chicago and Eastern Illinois	Alvin Danville	7,000
Indianapolis and St. Louis	Sanford	2,500
Terre Haute and Indianapolis	Farrington	3,000
Indiana and Illinois Southern	Palestine	1,000
Ohio and Mississippi	Wabash River	2,500
Louisville, Evansville and St. Louis	Mt. Carmel	2,000
Peoria, Decatur and Evansville	Grayville.	1,000
Louisville and Nashville	Carmi	2,000

LINES OF TRAVEL TO BE COVERED.	BY INSPECTIONS AT OR NEAR.	PROBABLE COST.
Illinois Central	Cairo	$8,000
Mobile and Ohio		
Mississippi River		
Ohio River		
St. Louis Bridge	East St. Louis	6,000
Mississippi River		
Mississippi River	Sundry Points	10,000
Ohio River		
Total estimated cost		$69,000
To prevent spread within the State		15,000
Total		$84,000

On motion of Dr. Ludlam the foregoing estimate was approved, and the Secretary was directed to submit the same to the committees on appropriations of the General Assembly, and to furnish therewith copies of the remarks contained in his report in support of the estimate.

During the final session of the meeting on Saturday, the following resolutions were offered and adopted:

By Dr. Kreider, for the committee on legislation—

WHEREAS: It has become a common practice for quacks, charlatans and other unprincipled and incompetent persons to obtain certificates of incorporation under the general Act concerning Corporations, approved April 18, 1872, and thence to advertise themselves as chartered by the State of Illinois, with the aim and intent of impressing the ignorant or unwary with the belief that the State has in some way granted them special privileges; and

WHEREAS: The said Act concerning Corporations excludes the business of banking, of insurance, of real-estate brokerage, of the operation of railroads, and of loaning money, from among the lawful purposes for which corporations may be formed; and

WHEREAS: The qualifications and requirements for the practice of medicine in the State of Illinois are prescribed by the Act approved May 29, 1877;

Therefore be it Resolved, That it is the sense of this BOARD that the first section of the Act concerning Corporations should be so amended as to include the practice of medicine among those pursuits or objects for which corporations may not be formed under the said Act.

Resolved, That the Secretary be and hereby is instructed to present copies of this preamble and the resolutions, and of that portion of his recent quarterly report which refers to this subject, to the chairmen of the Judiciary Committees of the two branches of the General Assembly now in session.

By the special committee on the Secretary's report, Drs. Haskell, Ludlam and Clark—

Whereas: The season is fast approaching when, it is feared, Asiatic cholera will again assume epidemic proportions in Europe and so threaten this country with a National calamity; and

Whereas: In the judgment of this Board such calamity may be averted by a system of preventive measures based upon the requirements of modern sanitary science;

Therefore be it Resolved, That this Board respectfully but urgently requests—First, that the President of the United States convene the National Board of Health forthwith, and put at its disposal, subject to his approval, the unexpended balance of the appropriation made at the last session of Congress for a contingent epidemic fund. Second, That the Illinois Senators and Members of Congress push the prompt appropriation of the sums recommended by the House Committee on Public Health. Third, That authority be, by a joint resolution of Congress, conferred upon the President to issue a proclamation forbidding immigration from infected countries whenever, in the judgment of the National Board of Health, such immigration threatens the public health of this country.

Resolved, That a copy of this preamble and resolutions, and of so much of the Secretary's report as refers to this subject, be forwarded to the President of the United States, to the Senators and Representatives in Congress from this State and to the members of the Public Health Committees of the Senate and House.

Also by the same committee, the following—

Resolved, That the disposal of the sewage of the Joliet Penitentiary should be so modified as to remove the present grounds of complaint and menace to health; and that the provision of suitable hospital facilities at the Asylum for Feeble-minded Children at Lincoln, is a necessity.

Resolved, That the suggestions and recommendations of the Secretary in connection with these subjects be brought to the attention of the present General Assembly.

The committee on legislation also reported favorably upon the proposed amendments of the Act to regulate the Practice of Medicine and of the State Board of Health Act. On motion of Dr. Ludlam the report of the committee was adopted, and the Secretary was directed to submit copies of the proposed amendments to the proper committees of the Senate and House.

Adjourned.

QUARTERLY MEETING, CHICAGO, APRIL, 1885.

The regular quarterly meeting of the ILLINOIS STATE BOARD OF HEALTH was held at the Grand Pacific hotel in the city of Chicago, April 16th and 17th, 1885.

Present, during both days' sessions: Newton Bateman, R. Ludlam, A. L. Clark, W. R. Mackenzie, George N. Kreider and John H. Rauch—the President, Newton Bateman, in the chair.

The BOARD was called to order at 10 o'clock a. m., Thursday, and, after the call of the roll, the minutes of the adjourned meeting, February 5–7, 1885, were read and approved. The examination of a class of nine applicants for certificates was begun—six of the applicants presenting satisfactory evidence of general education (diplomas or certificates of graduation, and one first-class teacher's certificate), and three being required to submit to an examination on this subject.

Under the call for reports from officers and committees, the Secretary presented the following:

QUARTERLY REPORT OF THE SECRETARY.

During the quarter ended March 31, 1885, there were received in the Secretary's office 830 written communications of all kinds, and a total of 1,478 were sent out. Of printed matter there have been distributed 2,065 copies of the Sixth Annual Report, besides 132 copies of the other Annuals, and 166 copies of the Official Register and the College Conspectus; together with an aggregate of about 8,000 copies of Quarterly Reports, Preventable-Disease Circulars, Sanitary Council Proceedings, Epidemic-Disease blanks and instructions, Public-Health Laws, Medical-Practice Act instructions, and other of the regular publications of the BOARD. The foregoing is independent of the matter connected with the State Sanitary Survey, for which blanks and instructions for the inspection of 330,000 houses and premises have been prepared. The first distribution of these—covering some 270,000 houses—was completed before the close of the quarter, and swelled the aggregate of matter sent by mail and express beyond the amount sent out in any other quarter since the organization of the BOARD.

On the other hand, fewer certificates entitling to practice in the State have been issued to physicians during the past quarter than during any corresponding period in the history of the BOARD: To graduates upon diplomas from medical colleges in good standing, 116, and to two others upon examination in branches omitted by their respective colleges; also two to non-graduates upon proof of over seventeen years' practice in the State. There were 22 applications for certificates rejected through failure to comply with the requirements of the Board,—which is also less than the usual proportion of such cases. Certificates have been issued to 19 midwives—12 upon diplomas or licenses, 4 upon examination, and 3 upon length of practice.

Medical Education:

As it is during this quarter that the new graduates in medicine begin to appear, their applications have been watched with more than usual interest at this time, as affording some clue to the effect of the new schedule of requirements.

Although 78 medical colleges out of the 116 in the United States claim to have exacted, at their last session, a preliminary-education requirement as a condition of matriculation, the evidence afforded by the applications thus far received goes to show that in too many cases the standard of such education must be very low.

From the graduates of one college, which announces that a preliminary examination will be held in accordance with the rules of the State Boards, five out of the seven applications received contain such intrinsic proof of defective preliminary education, that they are here presented to the Board.*

There is other evidence—some in the form of direct charges by rival schools, some by the students themselves—that the entrance-examination is, in many cases, a mere form. Colleges which, on inquiry, claim to exact proof of general preliminary fitness and capacity for the study of medicine, evade the spirit and intent of the requirement in a variety of ways. In some instances it is announced that the examination is confined to applicants who intend to practice in the States in which such examination is made a test of the good standing of a college. In other cases the requirement is entirely omitted from the college announcement, but graduates intending to practice in the States just described are furnished special certificates, setting forth that they have undergone the preliminary examination demanded. Still another form of evasion consists in announcing that a preliminary examination is exacted, but coupling this announcement with a long list of equivalents which will be accepted in lieu of such examination, beginning with the diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate (the only substitutes which the BOARD accepts), and ending with a "special arrangement" whereby the certificate of a preceptor is accepted as sufficient evidence.

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*The following is a verbatim copy of a typical specimen of the applications submitted:

I send to you my Diploma for your approval the degrees Doctor of Medicine was confered upon me at the .... annual Commencement of the .... held on Teusday Mar the ...... 1885. you will pleas return as soon as possiabl and oblige, Enclosed you will find the fee for Regestration.
Yours truly

P S if the fee is not suficient I will forward the balance if you notify me by card I understood the fee was one Doller

I presume the enclosed Papers will be all that will be requierd. return Diploma to Me at .... Illinois . ... co

In another case the first letter, dated Mar. 9, contained a request for a blank affidavit, which was, of course, immediately forwarded. The signature to the affidavit, received Mar. 14, was so evidently not by the writer of the first letter—which was unexceptionable in every respect—that some delay occurred, pending inquiry. Under date of March 30, the applicant, in a handwriting differing both from that of the letter of March 9 and from the signature to the affidavit, writes:

I send you my Deploma today by Expr. and letters of recommendation. I sent fee and affidavit Bout three weeks since. I would like to know at once whether or not to expect a Certificate. you will Pleas return Deploma by Exp.

It is possible that this young gentleman—who, by the way, states that his school of practice is "Alapathy"—passed his entrance-examination as he conducts his correspondence—that is by proxy.

It is not to be inferred, however, that there has been no gain or improvement in the standard and methods of medical education since this schedule of minimum requirements was first published. On the contrary, probably all has been accomplished that could have been reasonably expected. But these illustrations will indicate the scope and methods of the antagonism aroused by a measure of improvement, the first effect of which results in diminished classes and loss of income—an antagonism natural enough, perhaps, in view of the largely commercial character of many institutions of medical education. They also serve to show the necessity for further earnest and continuous effort.

In this direction it is suggested that one of the tests of the good standing of a medical college, for the purposes of the Medical-Practice Act in this State, should be its honest and unequivocal statement, in annual announcement and elsewhere, of the requirements for admission to its lecture-classes, and an honorable and impartial enforcement of such requirements.

To secure the recognition of its diplomas in this State—as in good standing—every college should distinctly announce that the conditions of admission to its classes are: 1. Credible certificates of good moral character.* 2. Evidence of the possession of a good English education, including mathematics, English composition and elementary physics, or natural philosophy—such evidence to be furnished in the absence of a diploma or certificate of graduation from a good literary and scientific college or high school or a first-grade teacher's certificate, by a thorough examination in the branches of such education. While this is the minimum, as to preliminary education, which should be distinctly specified and impartially exacted, it does not preclude colleges from making other requirements as conditions of admission to their lecture-classes.

I have again to suggest that the affidavit now required by law as to the lawful possession of a diploma, may be properly modified so as to include the information necessary to aid the BOARD in deciding whether such diploma was issued by a legally-chartered medical institution in good standing, as the third section of the Medical-Practice Act requires it to be—such modification to consist, substantially, in striking out the words "said institution," with which the declaration ends in the affidavit now in use, and substituting therefor the words A LEGALLY-CHARTERED MEDICAL INSTITUTION IN GOOD STANDING, AS DEFINED BY THE ILLINOIS STATE BOARD OF HEALTH, IN ITS SCHEDULE OF REQUIREMENTS PRINTED ON THE BACK HEREOF. A foot-note on the face of the affidavit should call the especial attention of the affiant to the import of this declaration.

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*Two gross instances of neglect to exact proof of good moral character have come under my notice during the quarter.

The law specifically requires that applicants for certificates shall furnish this proof—proof not merely that their diplomas are from legally-chartered medical institutions, but that they are from such institutions "in good standing." Obviously, the graduate of a given institution is a competent, if not the best, witness as to the qualifications exacted of him before he received its diploma. And since these qualifications go to the essence of the question as to the standing of the institution, it is submitted that the BOARD should avail itself of this form of proof.

The Public Health:

Early in January small-pox, which had been introduced into Cairo from the river and the adjoining States in November last, made its appearance at Villa Ridge and Pulaski; in February at Mound's Junction and Golconda; and in March at Mound City. At the close of the quarter, March 31, the disease was practically under control and no further spread is apprehended. The victims have been mainly among the colored population, the poorer classes of which it is difficult to reach by pre-vaccination, in the absence of any compulsory means of enforcement. During the prevalence of the disease they submit with less reluctance, and a very general vaccination and revaccination has finally been effected in the communities where there have been many cases. About the middle of January steps were again taken to secure the vaccination (or revaccination) of the public-school children of Cairo, although this had been very generally effected in 1883; and a thousand Scholars' Certificates of Vaccination, with the necessary instructions, were furnished on the request of the Cairo Board of Education. Supplies of vaccine virus were also forwarded to several of the localities. There is much suffering and destitution among the negroes, and the expense of caring for them has been very heavy.

Owing to its commercial importance as a river and railroad town, and to some extent, also, on account of its hospital facilities, Cairo is especially exposed to invasions of this disease. A large floating population of negroes, from hundreds of miles along the Ohio and Mississippi rivers, take refuge here during the fluctuations of navigation. They are usually improvident, shiftless, and thence predisposed to the contagious diseases. It is no uncommon occurrence to find a roustabout or deckhand just arrived upon the streets or levee, suffering from small-pox or other disease contracted elsewhere, and either shipped to or voluntarily seeking the hospital. A burden and responsibility are thus thrown upon the community which require the utmost vigilance to prevent becoming a serious menace, not only to its own health but to that of neighboring communities.

Vigorous measures were adopted at Mound City, where the first case appeared March 16. Within four days 46 cases and one death were reported, and by the end of the month there had been 112 cases with 23 deaths among the negroes, and five or six cases in two white families. Large supplies of virus have been furnished, vaccination and revaccination were made compulsory, the rules and regulations of the Board have been thoroughly enforced, and the outbreak was practically under control within two weeks after the first case was reported. The rapid spread of the disease and the large number of cases which occurred within a very short time are attributed to general exposure during a negro "protracted meeting," at which the contagion was introduced from Cairo.

A case at Milstadt, in St. Clair county, on the 18th of March, led the village trustees to immediately order the vaccination of all children attending school who had not been successfully vaccinated during the past year. The other rules of the Board, so far as applicable, were enforced, and no other case has been since reported.

There have been a few cases in Chicago, one of which, in the month of February, was somewhat sensational. A newly-married couple arrived in New York February 6, immigrants from Hamburg, and left for Chicago the next day. The woman was ill during the journey, and a physician was called, who pronounced her to be suffering with pneumonia. At Kingsbury, Ind., the train was snow-bound for twenty-four hours, and on its arrival in Chicago, February 11, the woman was found in an advanced period of the eruptive stage of hemorrhagic small-pox, and was removed to the hospital where she died five days later. Two weeks subsequently, March 3, the man who cleaned the infected car was reported sick with small-pox; the disease appeared at Kingsbury, and it is reported that the conductor in charge of the car was also attacked after returning to New York. The experience illustrates anew the direct interest which Chicago and the State have in seaboard and maritime quarantine, and suggests what may happen in the event of Asiatic cholera spreading to the German and English ports.

Scarlet fever in a mild form has continued in some localities during the quarter, but except in Lee, Pike, Schuyler and Stephenson counties it has not been serious enough to require any action on the part of the Board, nor has any other of the principal preventable diseases attracted attention.

The Cholera:

Information concerning the cholera continues to be obtained mainly from the newspapers. There is thus far an entire absence of official reports from the infected or compromised territory in Europe; or if such reports are received by any authority in this country they are not made public. Personal advices informed me of the existence of the disease up to the 20th of January in Paris and other parts of France. It is reported to have since re-appeared at Toulon, and to have broken out in Southern Russia. In the early part of March cases of what is now* admitted to have been cholera appeared in the interior of Valencia, one of the Mediterranean provinces of Spain; it thence found its way to the seacoast, whence it was carried by shipping to some of the neighboring provinces and to many ports in the Balearic islands. A recent number of the Semaine Médicale of Paris contains a letter from a correspondent in Alexandria, touching the danger of continuous introduction of the disease from Bombay, where it now reigns, into the Mediterranean by vessels from that port utilized by the British government in its military operations in the Soudan, and in contravention of the khedivial quarantine decree. Finally, within the last few days, the ports of Toulon and Marseilles have declared quarantine against all arrivals from Spanish Mediterranean ports.

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*At date of this report, April 15th.

None of these facts has ever been officially announced by any government authority, to my knowledge, notwithstanding their importance to the whole country, and especially to ports of entry along the Atlantic and Gulf coasts.

In the report adopted by the Sanitary Council at its recent meeting, it is recited that "it is a matter of vital necessity that health officers shall receive early and full information of the existence of epidemic diseases, such as yellow fever, cholera, small-pox, in the foreign ports in commercial relations with this country;" and soon after the adjournment of the Council, I addressed the following letter to the honorable Secretary of State:

SPRINGFIELD, Ill., March 25, 1885.

THE HON. THOMAS F. BAYARD, *Secretary of State*, Washington, D. C.

SIR:—During the recent seventh annual meeting of the Sanitary Council of the Mississippi Valley, held in the city of New Orleans, March 10–11, inst., the health organizations and commercial and transportation interests of twelve of the Valley States being represented, a special committee was appointed to formulate an expression of the views of the Council concerning the action necessary to be taken by municipalities, States, and the General Government with reference to the imminent danger of an invasion of Asiatic cholera during the coming season. The report of this committee was unanimously adopted by the Council, and it was subsequently

Resolved, That the Secretary of the Council be and hereby is, instructed to forward to the Secretary of State a copy of so much of the formulated views of the Council as relates to the prompt notification of the existence of epidemic contagious or infectious diseases in foreign ports which have commercial relations with this country.

In accordance with this instruction I have the honor to submit the following extract from the report as adopted by the Council:

"The Sanitary Council of the Mississippi Valley earnestly petitions the honorable Secretary of State that he cause the consuls and consular agents of the ports from which ships clear for the United States, to furnish not only the usual information embraced in bills of health, but all particulars in regard to the existence of contagious, infectious or epidemic diseases which may endanger the public health by importation through vessels reaching our shores."

It is understood that this information is already being received by the State Department, and the object of the Council in the foregoing is to secure such intelligence for the guidance of health authorities in the Valley.

I have, therefore, to request that copies of these reports, or their essential facts, be furnished me, as the executive officer of the Council, to be transmitted to those interested.

I am, Sir, very respectfully,

JOHN H. RAUCH, M. D., *Secretary*.

To the foregoing, Assistant Secretary Porter replies, April 3, that such reports are received regularly by the Department, and are sent to the Surgeon General of the Marine-Hospital Service, "who would best know the particular kind of information desired and required by health boards of the Mississippi Valley;" and adds that a copy of the letter has been sent to that officer. At the date of this writing, however, nothing further has been heard concerning the subject.

[During the sessions of the Board cable dispatches were received by the newspapers announcing that the French, Italian and Portuguese governments had ordered a quarantine of detention against Spanish vessels; and immediately following this came information of the appearance of the disease at Jaen, in the province of that name in the South of Spain, and at Santiago de Compostela, in the extreme north-eastern province of Coruna—the same dispatch saying that the panic in Spain over the spread of cholera is increasing, as reports continue to arrive showing that new points are being constantly attacked; that the government is taking energetic measures to isolate infected towns; and that a circular of warning has been sent by telegraph to the authorities of all the provinces, cautioning them against the admission of persons or goods from twelve specified towns, all of which are officially stated to be more or less infected.

Simultaneously with this latter information the first official statement was made public by the Secretary of State, who announced, on the 18th of April, the receipt of a dispatch from the United States consul-general at Madrid, saying "that he is informed by the director-general of health that there is no cholera in Spain, and that the cases recently reported in the province of Valencia are not cholera." The Spanish government has instructed its ambassadors to protest against quarantine restrictions, and a dispatch of the 19th inst., from Barcelona, also asserts that the disease is not Asiatic cholera, but cholera morbus or cholerine due to local causes, the outbreak at Alcira, near Valencia, for example, being caused, it is claimed, by the failure of the regular water-supply, in consequence of which "the people have been drinking from a canal, which was tainted by paper mills that use suspicious rags."

In view of these contradictory statements, and in the absence of full and authentic information from the National health authorities, sanitarians are justified in regarding, for precautionary purposes, the disease now so widely spread through the littoral provinces of Spain as true Asiatic cholera, and in apprehending present danger of its introduction into this country through commercial intercourse with the Spanish possessions in the West Indies—Cuba, Porto Rico, &c.—and less directly with those in South America.]

Danger from Immigrants:

In an address on the Exclusion and Prevention of Asiatic Cholera in North America, delivered before the National Conference of State Boards of Health in St. Louis, in October last, I sought to demonstrate by the history of every epidemic of the disease, beginning with its first introduction in 1832, that no single case of cholera, no one shipload of cases had ever sufficed to establish an epidemic of Asiatic cholera on this continent. It has only been after repeated importations of the contagion in the persons of thousands of immigrants and in their infected baggage and household goods, that it has effected a lodgment, and has reproduced itself and multiplied into an active epidemic agency.

Based upon this fact, it was urged that Congress should give the President the power to issue a proclamation, upon the recommendation of the National health authority, forbidding immigration into the United States from infected districts of other countries. And at the Washington meeting of the Conference, when National legislation was being considered, the then Secretary of State, Mr. Frelinghuysen, caused a section to be inserted in the bill which would give the President this power. Congress adjourned without taking action on the subject, and now the country is threatened with an influx, by emigration from Italy, of a people reduced to the verge of beggary and starvation by last year's cholera epidemic and its results. The danger is a real one, and has a practical interest for us. The low rates of passage will tempt to violation of the law against overcrowding, with all the suffering and insanitary conditions which will thence result. The poverty of the people and their modes and habits of life will add to the evil; and increased burdens and responsibilities will be thrown upon the authorities of every port at which these immigrants land, as well as upon the communities in which they may settle. These considerations may make it necessary for us to begin our work of sanitary supervision of travel and quarantine along the State boundary lines earlier than would otherwise be necessary. Already the first installment of the Italian immigration has arrived in Chicago.

State Sanitary Survey:

As already stated, the first distribution of the blank inspection returns and accompanying instructions, embracing an aggregate of about 270,000 houses, was completed during the last week of the quarter. This distribution began with Alexander county and progressed northward to the tier of counties along the Wisconsin line, which was reached in ample time to prepare for work as soon as the weather would permit. Before the middle of the State was reached, responses began to be received from localities in the southern counties, and by the close of the quarter 143 towns had been heard from. General publicity has been given to this effort by the press of the State, to secure which special circulars were addressed to the editors of 775 different publications.

A blank form for a tabular statement of these inspections has been prepared and printed, and is now ready for distribution. These will be furnished in duplicate sets, one to be returned to the office of the Board. They will show, at a glance, the actual sanitary condition of any given house and premises at the date of inspection; and, in the event of Asiatic cholera, or other epidemic contagious disease, making its appearance in a locality, they cannot fail to be of great practical value, not alone to the authorities of such locality, but also to the Board, in indicating, without loss of time, the direction and manner in which its coöperation, advice or authority may be best employed.

Circular-letters have been addressed to the managers of all railroad companies operating in this State, urging immediate attention to the condition of the water-supply and of privies and water-closets at stations, shops, roundhouses and other places along their respective roads. Satisfactory replies have been received from nearly every company addressed, and some of the most important have already practically completed the required work.

County boards and officers in charge of public institutions—almshouses, jails, asylums, etc.—have also been requested to secure a thorough sanitary policing of such places, and specific instructions on the most important points have been furnished.

Copies of the blanks, forms, etc., prepared for this general work, have been furnished, on request, to the health department of Chicago; and an excellent form of inspection return, modified to meet the city conditions, has been prepared by the Commissioner of Health, Dr. DeWolf, for an inspection of some 70,000 houses. It is proposed to complete the inspection of 50,000 of these, and to secure the correction of the defects thus disclosed, by the 1st of June.

One of the encouraging indications of the interest taken in this effort to prepare the State against an epidemic is found in the large number of letters from private individuals asking advice, making suggestions, or expressing approval.

Contagious Diseases of Animals:
Doubt as to the diagnosis rendered it necessary to make a personal visit to one of the cases of glanders reported at the last meeting. The patient, Mr. Frank A. Curtis, living near Belvidere, in Boone county, was found suffering from the disease in its chronic form with a good prospect of ultimate recovery. The case near Elmore continues to improve, but proper precautions are still observed to prevent any spread. No report has been received concerning the condition of the woman in the almshouse at Batavia, Kane county, who contracted the disease while nursing her husband. Three more cases have been reported near Urbana, in Champaign county, and one of these has terminated fatally since the close of the quarter. In this latter group the wife and daughter, the survivors, are also said to have contracted the disease while nursing the fatal case. There is reason to suspect that many more cases of glanders occur in the human subject than are recognized, and it is certain that the disease is increasing; so that it would seem advisable that the BOARD should make a special study of the subject.

In December, 1883, there occurred some cases of trichiniasis in a family living in Bloomington, and which are referred to in the Sixth Annual Report, page 81. Under date of January 15, 1885, Dr. W. E. Guthrie, of that city, writes:

"Referring to the case of trichiniasis in the person of Otto Topir, inquired about by you in letter No. 17,338: Otto Topir is at present under treatment at St. Joseph's Hospital and is recovering. His wife died several days ago with what was probably trichiniasis. A year ago persons in the same house were sick, and after having some of the meat examined and finding trichinæ in it, *threw the remainder to the pigs to eat.* Those pigs are the ones whose meat Topir and his wife ate. How is that for breeding trichinæ?"

The diagnosis of the cases in LaSalle county, previously referred to, was confirmed by a microscopic examination made by one of the members of the BOARD (Dr. Kreider), who reports that upon a slide containing two fragments of the suspected meat he found one specimen of the trichinæ clearly defined, and several points presenting appearances indicating nematoid contents, but these were too indistinct for positive identification.

Legislation:
The instructions of the BOARD at the last meeting, concerning various topics of legislation, have been complied with. Amendments to the Medical-Practice Act and to the State-Board-of-Health Act have been introduced in both branches of the General Assembly, and referred to the appropriate committees. I have since appeared before these committees to explain the object and necessity for these amendments, and have been accorded a full and satisfactory hearing. The present prospects for securing the needed legislation are as good as could be expected.

The Sanitary Council:
A very satisfactory meeting of the Sanitary Council of the Mississippi Valley was held in New Orleans, March 10th and 11th. There were delegates from twelve States present, representing the sanitary organizations and commercial and transportation interests. A full account of the proceedings has already been published, and to which reference is here made instead of occupying the time of the BOARD and space in this report by a repetition.

High Buildings:
Occasion may be taken of the meeting of the BOARD in this city and in this particular locality, surrounded by illustrations of the topic, to call attention to the height of the buildings which have been put up within the past year, or are still in process of construction. Considerations of the increased danger in case of fire—although many of them are claimed to be fireproof—and the strictly sanitary questions involved, suggest whether it is not about time to call a halt. The exclusion of sunlight from surrounding property and the obstruction of ventilation, are undoubtedly detrimental to the public health; and with the increased difficulty of controlling a fire should it get well under way in one of these towering structures, make the subject serious enough to warrant attention being called to it.

JOHN H. RAUCH, Secretary.

On motion of Dr. Ludlam, the report was received and ordered printed in the published proceedings, and its various recommendations and suggestions were referred to a committee, to be appointed by the Chair. The President appointed as such committee Drs. Ludlam, Clark and Kreider. The regular order of business was then suspended during the remainder of Thursday's session in order to take up for consideration sundry cases under the Medical-Practice Act.

FRIDAY, April 17, 9 o'clock a. m.—The BOARD reconvened pursuant to adjournment; present as before. Consideration of cases under the Medical-Practice Act was resumed and continued until 11 o'clock, when the Secretary introduced to the members Dr. O. C. DeWolf, Health Commissioner of Chicago, present by invitation to speak upon the sanitary condition of the city, the work in progress and projected, and the preparations for cholera. From the standpoint of the sanitarian, Dr. DeWolf said, Chicago was a clean city, although its muddy streets made it seem dirty. Its low death-rate and the failure of small-pox to spread, notwithstanding 35 introductions of the contagion since last June, showed it to be clean in a sanitary sense; and the work now in progress and projected would, he believed, make it clean in appearance as well as in fact. Referring to the house-to-house inspection in the State at large, he said that the health department was also inspecting at the present time about a thousand houses a week in the worst quarters of the city; in a short time this would be increased, so that by the middle of June he hoped to have all that really required supervision thoroughly inspected and put in good condition. Some 9,000 tenement houses, which are usually a serious sanitary evil in all large cities, are under constant supervision, and he believed them to be as unobjectionable as it was practicable to make such buildings. If cholera should come the preparations are already completed to promptly take charge of the first cases, to furnish medical attendants and nurses, to depopulate an infected house or locality, and to carry out whatever measures were necessary to prevent any spread.

The thanks of the Board were tendered Dr. DeWolf by the President, for his very interesting and reassuring statement.

In the absence of Dr. Haskell, Dr. Kreider was appointed to act with Dr. Mackenzie as a committee of audit upon the accounts of the quarter.

DRAINAGE AND SEWERAGE OF COOK COUNTY.

At the afternoon session Mr. O. C. Guthrie, of Chicago, presented by invitation, a brief outline of his plans for the sewerage and drainage of Chicago and its suburbs. Their important features embrace a study of the hydraulics of the Desplaines river, with reference to the effect of high water upon the cleansing of the Chicago river through the canal (by counteracting the action of the pumps), upon the integrity of the canal itself, and upon the safety of Chicago and Joliet from inundation. The Desplaines and its tributaries drain 1200 square miles, with a fall of a foot and a half to the mile. Mr. Guthrie proposes to direct three-fifths of its high-water flow (north of Riverside) to Lake Michigan, at an estimated expense of $50,000; to restore the "divide" between the Desplaines and the South branch of the Chicago river; and to guard against danger from sudden rises of Salt creek and Flag creek by utilizing the old Calumet feeder through the Sag. For the sewage of Chicago he proposes a gradual deepening and widening of the canal to a capacity adequate to carry off the increasing sewage product, diluted with lake water sufficient to make it harmless and inoffensive along the line of the canal. The South fork of the South branch is to be flushed by pumping works drawing water from the lake, and incidentally draining a low area in Hyde Park. Similar areas in the towns of Evanston and Lake View have also their appropriate modes of treatment indicated; and the conversion of sandy stretches into "celery ground" by sewage irrigation, the reclamation of the "Skokee swamp," and many minor details enter into the discussion of the subject.

At the close of Mr. Guthrie's remarks, Dr. Ludlam, occupying the chair in the temporary absence of the President, suggested that the matter was of such great practical interest to Chicago and Cook county, as well as to the communities along the Illinois and Michigan canal, and the Desplaines and Illinois rivers, that the Board would like to have Mr. Guthrie's plans in writing for a more critical examination. Mr. Guthrie stated in reply, that they had already been submitted to the Citizens' Association of Chicago, and in the event that they were not published by that body, he would be glad to furnish a copy to the Board. Dr. Rauch, in commenting upon the study which Mr. Guthrie had given to this subject, and his long practical experience with many of its problems, said he was glad to notice that the Chicago Common Council had appropriated $6,000 for the repair of the Ogden ditch dam, and hoped the work would be speedily completed, so as to restore the effect of the Bridgeport pumps upon the Chicago river.

The regular business of the meeting was then resumed, and the following preambles and resolutions, submitted by the committee on the recommendations and suggestions in the Secretary's report, were read, discussed, and unanimously adopted:

CONCERNING MEDICAL EDUCATION.

Whereas, Many medical colleges do publicly announce that an entrance examination of candidates for admission to their lecture courses will be exacted, and do honestly and impartially enforce such examination; while, on the other hand, a number of schools either avoid making such announcement, or evade the practical enforcement of any requirement of general education preliminary to the study of medicine; and

Whereas, These conflicting practices result in lowering the standard of medical education by attracting to a certain class of schools students who are poorly prepared for the study of medicine: Therefore, be it

Resolved, That, in order to secure the recognition of its diplomas as in good standing for the purposes of the Medical-Practice Act in this State, it is necessary that each college shall distinctly state in its annual announcement that the conditions of admission to its classes are: 1. Credible certificates of good moral character. 2. Diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate. Or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy.

Resolved, That the Secretary of the Board be, and hereby is, instructed to furnish a copy of the foregoing preamble and resolutions to the Dean or Secretary of every medical college, and to the editors of medical journals, in the United States.

CONCERNING INFORMATION OF FOREIGN EPIDEMIC DISEASES.

WHEREAS, Prompt, full and trustworthy information of the existence of epidemic diseases, such as Asiatic cholera, yellow fever and small-pox, in the foreign ports in commercial relations with this country, is a matter of the first importance to the success of efforts for preventing their introduction or limiting their spread; and

WHEREAS, It is understood that, under the authority conferred upon the President by Sec. 1752 of the Revised Statutes of the United States, consular officers and other foreign agents of the general government are required to furnish such information: Therefore, be it

Resolved, That the Secretary of this BOARD be, and he hereby is, instructed to respectfully request of the honorable the Secretary of State that he cause to be transmitted to the office of this BOARD, at Springfield, so much of such information as may be useful in guiding action for the protection of the people of this Commonwealth against Asiatic cholera, yellow fever and small-pox.

On motion of Dr. Clark it was

Resolved, That the STATE BOARD OF HEALTH of the State of Illinois respectfully but earnestly requests the President of the United States to authorize the National Board of Health to use so much of the contingent epidemic fund, appropriated by the last Congress, as may be necessary for preparing and enforcing an adequate system of preventive measures against the introduction and spread of foreign pestilential diseases, in coöperation with and in aid of State and local health organizations and with especial reference to Asiatic cholera.

Resolved, That the Secretary be authorized to transmit a copy of this resolution to the President.

On motion of Dr. Mackenzie it was

Resolved, That, since the publication of the names and addresses of matriculates is desirable for purposes of information, the Secretary be authorized to request of all colleges desirous of being accounted in good standing in this State, that they publish in their successive annual announcements complete lists of the matriculates, as well as of the graduates, of each immediately preceding session.

DISINFECTION AND DISINFECTANTS.

The Secretary asked leave to submit a copy of the Preliminary Report on Disinfection and Disinfectants made by the committee on that subject, appointed by the American Public Health Association, stating that, as Secretary of the Sanitary Council of the Mississippi Valley and chairman of its special committee on General Sanitation, he had, in accordance with a resolution of the Council, addressed a letter, March 14th, to Surgeon Geo. M. Sternberg, U. S. A., chairman of the Committee on Disinfectants, requesting to be furnished with "a plain, practical paper on disinfection and disinfectants, for popular use and distribution." Surgeon Sternberg, under date of April 14th, in a letter accompanying this copy, writes: "At a special meeting of the Committee on Disinfectants, called for the purpose, the paper submitted was carefully considered and adopted unanimously as expressing the views of this committee with reference to the best methods of disinfection known to us."

As this paper was intended for popular use and distribution, the Secretary remarked that he knew of no better way of securing that end than by publishing it in the report of the proceedings of the Board.

Dr. Ludlam moved that the copy of the Preliminary Report be received and published as suggested. Carried. It was subsequently ordered that the Secretary prepare a special edition of the paper, embracing only the practical instructions, for the use of local boards of health and health officers throughout the State.*

MISCELLANEOUS.

The Secretary called the attention of the Board to the recent death of Dr. T. G. Black, of Clayton, Adams county, and said that, from the prominence of the deceased in matters pertaining to medical and sanitary legislation, it seemed fitting the Board should take some cognizance of his demise. On motion of Dr. Kreider, the President appointed Drs. Rauch, Kreider and Mackenzie a committee to draft a suitable expression of sentiment, to be presented at the next meeting.

Dr. Mackenzie, for the Auditing Committee, reported that bills and accounts for the quarter amounting to $3,199.93 had been audited, found correct, and recommended that they be paid.

Dr. Kreider moved that the Secretary be authorized to act for the Board in any case of emergency, pending the next meeting.

During the sessions the following action was taken upon cases arising under the Medical-Practice Act:

Dr. Charles McLean, of No. 182 West Madison street, corner of Halsted, Chicago, charged with unprofessional and dishonorable conduct in

1.) Fraudulently issuing a card in the following terms:

"Dr. McLean's Medical Institute for Female Diseases, 182 W. Madison street, Room 11. Phrenology and Mesmerism Successfully Taught. Terms reasonable. President—Charles McLean, M. D., assisted by Prof. L. H. Anderson and others. Dr. McLean's New Developer for Delicate Ladies never fails to Strengthen the Chest, Develop the Bust, and Beautify the Complexion."

2.) Attempting to blackmail a female patient, attracted by the foregoing card, and whose testimony before a Chicago police justice, submitted to the Board, established the fact of grossly indecent solicitation and practice on the part of said McLean.

3.) Obtaining money under false pretenses, for which he was arrested, confined in jail, and released on refunding the money.

4.) Grossly immoral conduct and general reputation in the building where his so-called "Institute" was located.

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* This will be found in subsequent pages of this volume.

In a pamphlet styled "The Mind Cure," dated October, 1884, appeared the following:

> We duly appreciate an interesting call and visit by Charles McLean, M. D., LL. D. The doctor is widely known in Europe and America. Is a graduate of Glasgow University, Scotland, in the O. S.; also a graduate of one of the Chicago medical colleges, N. S. Has been a student of law and theology, and in the latter received D. D., but chooses not to use it, having retired from this field after two journeys around the world. He is an author of some repute, and speaks several languages. He is now a resident of Chicago. Full of energy, has gained wealth and prominent standing among druggists here and across the water. We find him cultured and progressive. He had learned of our new association and purpose and spoke so highly of the Mind Cure system we told him our door was open if he could identify with it. He is now a member of our association and a contributor to its finances. Also to be an editorial contributor to our columns. Such steps are portentous. Let them come. The doctor now is president of a Medical Institute at 182 West Madison street, and will be heard from.

Dr. McLean had been duly notified to appear in answer to the foregoing charges, but it was stated by one of the sworn witnesses that he had disappeared after being released from jail. After a full consideration of the evidence presented, it was ordered that Certificate No. 5853, issued to Dr. Charles McLean on the 13th of March, 1883, be revoked.

Dr. James F. Cook, of the "St. Jacob Institute," No. 14 South Clark street, Chicago, charged with unprofessional and dishonorable conduct in—

1.) Being associated with a fraudulent medical "institute," so-called, of which he advertises himself to be the "superintendent."

2.) Falsely testifying as to the physical condition of one Smith Whittier, for the purpose of mitigating the sentence of said Whittier, convicted in the United States District Court of sending obscene matter through the mails.

3.) Writing, publishing and distributing an obscene pamphlet entitled "Hidden Secrets."

Dr. Cook had been duly notified to appear in answer to the foregoing charges, and after full consideration of the evidence submitted it was ordered that Certificate No. 527, issued to Dr. James F. Cook on the 2d of January, 1878, be revoked.

Dr. J. Alonzo Greene, formerly of St. Louis, Mo., now at 34 Temple Place, Boston, Mass., charged with unprofessional and dishonorable conduct in

1.) Falsely and fraudulently claiming to have established "a system of *curing all forms of chronic or lingering diseases*."

2.) Falsely and fraudulently advertising that the ILLINOIS STATE BOARD OF HEALTH, among other Boards, Colleges and Medical Societies, had awarded him and his associates "diplomas for their remarkable skill in curing disease, and their discoveries of valuable remedies."

The evidence being deemed conclusive as to the truth of the charges, it was, after due consideration, ordered, that Certificate No. 4811, issued to Dr. J. Alonzo Greene, on the 17th of December, 1880, be revoked.

Dr. Joseph Atherton, of East Paw Paw, DeKalb county, whose certificate was revoked October 5, 1882, and who had asked an opportunity to present reasons for its restoration, stated that he acknowledged the sufficiency of the grounds upon which his certificate had been revoked, but claimed that he had been misled, and upon discovering his mistake and its consequences had abandoned the objectionable practices. He asked the Board to restore his certificate, pledging himself to conformity with the requirements of the Medical-Practice Act as to honorable professional conduct, and sustained his application by strong commendatory letters from physicians and others. On motion of the Secretary, Dr. Atherton's certificate was ordered to be restored.

On motion of Dr. Mackenzie, all other cases under the Medical-Practice Act, not otherwise disposed of, were continued to a special meeting to be called by the Secretary at an early date.

EXAMINATION OF CANDIDATES.

At 9 o'clock p. m., Friday, the examination of candidates was concluded. The Secretary announced that two of the class had withdrawn without attempting to pass the preliminary examination upon general education. Of the remainder, the following gentlemen attained the required percentage entitling them to pass:

Adolph C. Brendecke, Chicago.
Jonathan E. Clark, Mason, Effingham county.
James D. Craig, M. D., Rogers Park, Cook county.

The following is the schedule of questions submitted at this examination, and to which eighty per cent. of correct answers was required in order to pass:

Illinois State Board of Health.

Quarterly Meeting, Chicago, April 16-17, 1885.

EXAMINATION IN ANATOMY.

BY W. A. HASKELL, M. D.

1. Describe the frontal, sphenoidal and maxillary sinuses. Which ones exist in infancy?
2. Give the anatomy of the shoulder-joint.
3. Describe a rib.
4. Describe the muscles concerned in pronation and supination of the fore-arm.
5. Name the branches of the external carotid artery.
6. Describe the circulation of the liver.
7. Describe the brachial plexus, giving the nerves of which it is formed, its location and its branches.
8. Name the arteries, veins and nerves cut in an amputation of the leg in its middle, and give their relations.
9. Give the anatomy of the eye.
10. Give the anatomy of the prostate gland.

EXAMINATION IN PHYSIOLOGY.

BY W. R. MACKENZIE, M. D.

1. Describe the physical properties of the blood.
2. Its chemical composition.
3. Its structural character.
4. Its pulmonic and its systemic circulations.
5. Its circulation in the fœtal heart.
6. Describe the function of respiration.
7. What are the sources of carbonic acid in the body?
8. State the normal relation of the respiratory act to the heart-beat.

9. Describe digestion.
10. What is the function of the liver in the process of nutrition?
11. Give the composition and properties of chyle.
12. What is bile—its source and function?
13. What is secretion, and name the more important secretions of the body.
14. What is the specific gravity of normal urine?—its reaction?
15. What is the normal temperature of the human body, and what the minimum and maximum temperatures consistent with life?
16. What are the general functions of the great sympathetic or tri-splachnic nerve?
17. What is a sensation, and what are its various kinds or modes?
18. Mention the nerves concerned in the special sense of taste, and their respective offices.
19. Describe the physiology of sleep.
20. What is meant by somatic death, and to what is it due?

EXAMINATION IN CHEMISTRY.

BY A. L. CLARK, M. D.

1. What are the general properties of acids?
2. What is a salt?
3. Give the chemical symbols for tin, lead, potassium, sodium, iron, gold, silver, sulphur.
4. What is catalysis?—synthesis?
5. What is a quantitative analysis?
6. In what way would you test water for organic impurities?
7. To what chemical element in nitro-glycerine is due the explosive nature of that substance?
8. How are the gases forming air united?
9. Give the general properties of chlorine.
10. What is a tetrad?
11. What is meant by the diffusion of gases?
12. Will the air at the top or bottom of a room contain the more carbonic acid gas, and why?
13. What fluid is the most universal solvent?
14. What is meant by the terms osmosis and exosmosis?
15. What are incompatibles? Give one or more illustrations.

EXAMINATION IN PATHOLOGY.

BY R. LUDLAM, M. D.

1. Define pathology as distinguished from physiology?
2. What is the difference between fever and inflammation?
3. Give the chief and common characteristics of the malignant diseases.
4. Define the difference between a general and a local disease, and give illustrations of each.
5. Explain the abdominal tympanitis of typhoid fever.
6. Describe the pathology of apthous ulceration.
7. What is emphysema, and what is its most frequent cause?
8. Give the pathology of local inflammation.
9. Which lung is most frequently inflamed, and why?
10. Why does pelvic congestion frequently alternate with portal congestion?

EXAMINATION IN MATERIA MEDICA AND THERAPEUTICS.

BY GEO. N. KREIDER, M. D.

1. Give the habitat, preparations, and therapeutic uses of erythroxylon coca.
2. What salt derived from it has been recently found valuable in therapeutics? Give its uses.
3. Describe the methods of producing two kinds of electricity.
4. Define the therapeutic indications of each.
5. Give the therapeutic uses and applications of cold.
6. Of heat.
7. What is your treatment of chronic constipation, and advice? Give your prescriptions.
8. Write a prescription for the first stage of cholera.
9. Give the composition and doses of five officinal preparations of opium.
10. How would you administer quinine other than by the mouth? Give two ways.
11. What general anaesthetic do you prefer? Describe your method of using it to produce anaesthesia, giving the precautions you would take.
12. Give the adult doses of cod liver oil; chloral; oil of turpentine; asafoetida; salicylic acid; tincture of aconite; tincture of digitalis; solution of arsenite of potassium.
13. Give the officinal name and composition of Dover's powder; Fowler's solution; mercury and chalk; seidlitz powder; blue ointment; compound rhubarb powder.
14. What doses of compound tincture of opium would you give to children one, three and four years old respectively? How much opium would each receive? How do you compute the dosage for children?
15. For poisoning by what drug would you give freshly prepared hydrated sesquioxide of iron? How would you prepare it?

EXAMINATION IN THE PRACTICE OF MEDICINE.

BY W. R. MACKENZIE, M. D.

1. Define cachexia.
2. Define discrasia.

Give the etiology, symptoms and treatment of—

3. Cholera infantum.
4. Diphtheria.
5. Membranous croup.
6. Cerebro-spinal meningitis.
7. Pneumonia.
8. Acute gastritis.
9. Jaundice.
10. Acute Bright's disease.
11. Cystitis.
12. Intermittent fever.
13. Tubercular consumption.
14. What is the essential lesion, and what are the distinguishing characters of the temperature, in typhoid fever?
15. What complications and sequelæ are to be guarded against in acute rheumatism?
16. State the various ways in which an attack of pneumonia may terminate.
17. Describe the symptoms and course of an attack of Asiatic cholera.
18. Describe the secondary symptoms of such an attack—the so-called "cholera-typhoid."
19. State the distinction between a malignant and a non-malignant growth, with illustrations of each.
20. To what indications of treatment in carcinoma is the physician limited—as distinguished from the surgeon?

EXAMINATION IN OBSTETRICS.

BY A. L. CLARK, M. D.

1. What is the axis of the superior strait, and how does it correspond with the axis of the body?
2. Name the envelopes surrounding the fœtus in utero, from without inward.
3. To what condition does imperfect closure of the foramen of Botal give rise, and what is the prognosis?
4. How will you differentiate crural phlebitis from rheumatism?
5. What blood vessels are found in the umbilical cord?
6. Give the mechanism of labor in the most common position?
7. In what stage of labor is there the greatest danger to the mother?
8. To what pathological conditions is the general name of puerperal fever given?
9. What are the especial dangers to mother and child in breech presentations?
10. Give the conditions present in parturition where the use of ergot may be permitted.

EXAMINATION IN SURGERY.

BY W. A. HASKELL, M. D.

1. Describe pus, giving its physical qualities and anatomical characteristics.
2. What is an abscess? Describe the mode of pus formation in the occurrence of an abscess.
3. Give the probable cause of death in the following case: A child had the knee resected for chronic inflammation. The wound was dressed antiseptically, and there was no odor to the discharge at any time. The patient began to vomit on the day after the operation, and continued to do so. The temperature was never above 101°, and fell to 96.2° before death. The leg became swollen; the patient became cold, cyanotic and pulseless, and died on the fifth day after the operation. There were no lesions except a slight swelling of liver, spleen and kidneys.
4. Give the pathology and treatment of shock.
5. Give the treatment of wounds—1st, to obtain primary union, and 2d, to promote healing by secondary adhesion.
6. What variety of tumors appear capable of being inherited? In the inheritance of malignant growths, are the tumors necessarily of the same variety in parent and offspring? Give cases illustrative of your answers.
7. Give the diagnosis and treatment of fissura ani.
8. Give the differential diagnosis of inguinal hernia and hydrocele of the cord.
9. Describe an operation for removal of the tongue.
10. Describe tracheotomy.

EXAMINATION IN GYNECOLOGY.

BY LUDLUM, M. D.

1. What condition interferes with the establishment of puberty?
2. Mention the prominent symptoms of chlorosis.
3. Give the symptoms and treatment of puerperal endometritis.
4. What three diseases are followed by fixity or anchorage of the uterus?
5. Give the causes and treatment of nursing sore mouth.
6. What are the sources of puerperal traumatism, and what are the most serious lessons that result from it.

7. What are the predisponents, and what is the prophylactic treatment, of puerperal convulsions?
8. Which of the uterine displacements is most frequent, and why?
9. Describe the predisposing and exciting causes of prolapsus uteri.
10. What conditions of the rectum predispose to pelvic disorders in women?

EXAMINATION IN HYGIENE.

BY JOHN H. RAUCH, M. D.

1. Name the principal preventable diseases in the order of their greatest fatality.
2. Give the differential diagnosis of small-pox—of scarlet fever—of measles—of chicken-pox.
3. What diseases are spread mainly through the medium of water—what mainly through the air—and what mainly by direct contact?
4. At what period of life is the death-rate the highest, and what are the principal preventable causes of such mortality?
5. Describe the operation of vaccination—its phenomena—complications—the relative merits and demerits of bovine and humanized virus—and state the ages at, or conditions under, which the operation should be repeated.
6. What precautionary measures would you, if a medical officer of health, enforce in a community threatened with Asiatic cholera?
7. What measures would you advise on the appearance of a first case of Asiatic cholera in your community?
8. What are the most common sources of pollution of a water-supply in large cities and what in small towns, villages and in the country?
9. What is the distinguishing characteristic of sewer-contaminated water?
10. What effect does boiling have upon a contaminated or impure water?
11. Mention the desirable sanitary conditions of a site for a dwelling—character of soil—drainage—exposure—elevation.
12. What are the pathological indications of defective sewerage and drainage of a house and premises?
13. What are the physical indications of the same condition?
14. What is ground air, and how may it be deleterious to health?
15. Within what distance of a well or other source of water-supply is a privy-vault dangerous in a sandy soil—in a loam—in clay?
16. What effect would general subsoil drainage produce upon the temperature, atmospheric humidity and wind movement of this State?
17. Formulate, briefly, a set of rules for school hygiene.
18 Mention four of the best disinfectants—state their applications—and give directions for their use.
19. Define the difference between an antiseptic and a germicide.
20. What diseases of animals are communicable to the human family?

EXAMINATION IN MEDICAL JURISPRUDENCE.

BY JOHN H. RAUCH, M. D.

1. Define medical jurisprudence, and state what degree of knowledge the law expects of a medical witness.
2. What is the duty of a medical witness as to questions of fact?
3. What is his privilege as to questions of expert knowledge or opinion?
4. What are the important points to observe, with reference to the subject, in conducting a post mortem for legal purposes?
5. Describe the signs which would enable you to determine whether an incised wound had been inflicted before or after death?
6. What portion of the body would you select for a chemical examination in a case of suspected poisoning.
7. What are the indications of viability in the fœtus, and at what age are these found?
8. In suspected infanticide, what proof would determine respiration?
9. Describe the course of procedure in commitment to an insane asylum in this State?
10. What important legal bearing has the collection of vital statistics.

MINUTES OF A SPECIAL MEETING, MAY 21, 1885.

Pursuant to the call of the Secretary, issued in accordance with the action taken at the last regular meeting, the following members met in the office of the Board, at Springfield, on Thursday, May 21, 1885: Drs. Haskell. Mackenzie, Kreider and Rauch.

At 3 o'clock p. m., a quorum of the Board being present, the meeting was called to order, and, on motion of Dr. Mackenzie, Dr. Haskell took the chair in the absence of the President.

The case of Dr. J. Cresap McCoy, of 1516 Lucas Place, St. Louis, of Belleville, Alton and elsewhere in the State, was taken up for consideration. A certificate was issued to one J. C. McCoy, February 25, 1885, his affidavit representing him to be a graduate of the Medical Department of the University of the City of New York, and in other respects his papers were satisfactory. On the 27th of February an advertisement appeared in the News-Democrat of Belleville, Ill., under the caption "A Surgical Triumph," and announcing that "Dr. J. Cresap McCoy, late of Bellevue Hospital, New York, has opened an office for a limited time only, in the Academy of Music Building, West Block, fronting on the Public Square, Belleville, Ill." A copy of the advertisement submitted to the members was adjudged to contain claims and promises with regard to the treatment and cure of the sick and afflicted which are false and fraudulent. Similar advertisements in St. Louis and Alton papers were shown, as also a copy of a 24-column sheet entitled "The St. Louis Wasp," filled with matter pertaining to "Dr. J. Cresap McCoy" and his skill, attainments and success, the whole illustrated with coarse wood-cuts of various parts of the human body and its members. McCoy was notified to appear before the Board at its April meeting, while he was still advertised at Belleville, the jurat of the constable who served the notification upon him on the 16th of March, being in evidence. May 16th at Alton, he was again notified to appear at the present meeting, the charge against him being duly recited, and is as follows: "That you make statements and promises with reference to the treatment and cure of the sick and afflicted which are calculated to deceive and defraud the public."

After due consideration of the evidence in the case, and in default of any defence, denial or other form of response on the part of said

McCoy, it was ordered, on motion of Dr. Kreider, seconded by Dr. Mackenzie, that Certificate No. 6793, issued to J. Cresap McCoy, on the 25th of February, 1885, and legally entitling him to practice medicine in the State of Illinois, be and hereby is revoked for "unprofessional and dishonorable conduct."

The Auditing Committee reported that they had examined bills to the amount of $29.45, found them correct, and the same were ordered paid.

Adjourned.

QUARTERLY MEETING, CHICAGO, JULY, 1885.

The regular quarterly meeting of the ILLINOIS STATE BOARD OF HEALTH was held at the Grand Pacific hotel in the city of Chicago, on Thursday and Friday, July 2d and 3d, 1885.

Present during the sessions: Newton Bateman, R. Ludlam, W. R. Mackenzie and John H. Rauch—the President, Newton Bateman, in the chair.

The BOARD was called to order on Thursday, at 10 o'clock a. m., and the minutes of the regular quarterly meeting in April, and of the special meeting May 21, were read and approved.

At 2 o'clock, p. m., the BOARD again convened, and the Secretary stated that this hour had been fixed upon for the hearing of the charges against Dr. John Bate, upon whom the following notification had been served:

STATE OF ILLINOIS, ss.

THE STATE BOARD OF HEALTH OF THE STATE OF ILLINOIS TO JOHN BATE, M. D.:—Charges of unprofessional and dishonorable conduct as a physician and person practicing medicine in said State have been made against you, and presented to and filed with the STATE BOARD OF HEALTH of the State of Illinois, said charges being as follows:

1. That, holding yourself out to the public as a practicing physician at Chicago, in Cook county, you have practiced medicine and advertised as a physician under certain aliases—to-wit: under the assumed and fictitious names of "A. G. Olin" and "J. G. Carlton;" and that you have so practiced and advertised yourself as "A. G. Olin" within the past three months.

2. That at various times within the past three months, and at other times, you have published and circulated pamphlets, circulars and advertisements in which you make indecent suggestions and false and impossible pretensions as to your curative skill, and as to cures claimed to be made by you, and in which you promise to perform impossibilities in the way of effecting cures, said claims, pretensions, suggestions and promises being published in sundry newspapers and other periodicals under the captions "$500 Reward," "Free Trial," "To Impotent Men," etc., and in a pamphlet entitled

"Marriage Guide," and in a circular entitled "A Word in Time," copies of the same having been furnished to the State Board in evidence.

3. That you have advertised for sale and dealt in "rubber goods," or appliances to prevent conception, and for other illegitimate and immoral purposes.

4. That you have furnished pills for the alleged purpose of procuring abortion, and that you have offered under the assumed name of "A. G. Olin," to produce abortion by operation, when such operation was not necessary for the preservation of the mother's life, but solely for criminal purposes.

5. That within the past three months, also under the fictitious name of "A. G. Olin," you have advertised, under the caption "Free to All," a secret nostrum under the title "Nervita," and distributed gratis sample boxes of the same, falsely setting forth that said nostrum had, during the year 1884, cured over fourteen thousand cases of "nervous debility, mental and physical weaknesses, lost manhood, nervous prostration, results of indiscretion," etc.

6. That you have been convicted and sentenced to the penitentiary, after a trial in the United States district court, Northern district of Illinois, for sending obscene matter through the mails.

The said State Board of Health will hold a session on the 2d day of July, A. D. 1885, at the Grand Pacific hotel, in the city of Chicago, at 2 o'clock p. m., for the purpose of hearing evidence touching said charges, and thereupon will proceed to consider and determine whether Certificate No. 328, dated Nov. 3, 1877, heretofore issued to you by the said Board, authorizing and admitting you to practice medicine in said State, shall be revoked.

You are hereby notified to personally appear before said Board at the time and place specified for said hearing, to answer, defend, and present testimony as you may deem fit; and in default thereof said Board will proceed in your absence to such hearing and determination.

[SEAL.]

John H. Rauch,
Secretary State Board of Health.

Springfield, Ill., June 23, 1885.

A similar notification had been prepared for the trial of this case at the April meeting, but service was not then secured in season. The sworn indorsement on the duplicate copy, now presented by the Secretary, showed that this notification had been duly served upon Dr. Bate.

At three o'clock p. m., Dr. Bate not having made his appearance, either personally or by attorney, and there being no reason for a further continuance of the case, the Board, on motion of Dr. Mackenzie, proceeded to the consideration of the charges. The Secretary recited the facts as to the previous revocation of Bate's certificate on similar charges, and stated that the court before which Bate had been brought for trial for practicing without a certificate, had decided that sufficient notice had not been given, and held the revocation to be therefore illegal. Witnesses were then sworn who testified to the truth of the charges as set forth in the above notification. Upon the conclusion of this testimony, and after an examination of the printed matter and documentary evidence submitted, the President summed up the case, and the members, voting seriatim upon each charge, decided unanimously that they had been fully proven. Whereupon, on motion of Dr. Mackenzie, it was ordered that Certificate No. 328, issued November 3, 1877, to John Bate, of Chicago, be revoked and annulled, he having been adjudged "guilty of unprofessional and dishonorable conduct."

The remainder of Thursday's session was devoted to the consideration of other cases under the Medical-Practice Act.

Friday, July 3, nine o'clock a. m.—The Board reconvened pursuant to adjournment; present as before. The regular order of business being called, the Secretary presented the following

Quarterly Report.

During the quarter ended June 30, 1885, there were received in the Secretary's office over 1,609 letters, reports and written communications, including 158 diplomas submitted for verification, and the papers accompanying applications for certificates by 180 physicians and 34 midwives. There were sent from the office during the same period an aggregate of 1,774 letters and other individual written communications, besides about 16,000 copies of printed reports, circulars, pamphlets, blanks, and matter pertaining to the State Sanitary Survey and the Sanitary Schedule of Towns and Cities.

Of the 180 applications by physicians for certificates, 123 were issued upon the diplomas of colleges in good standing according to the Schedule of Minimum Requirements; 14 were issued, after supplementary examination, to graduates of six colleges which had omitted some one or more of the requirements of the Schedule (6 of these cases are still pending, and 4 of the applicants who refused to submit to the examination have left the State); 2 certificates were issued to non-graduates upon proof of over seventeen years' practice in the State; and in the remaining 31 cases, certificates have been refused either because the applications were based upon diplomas of colleges which are not recognized as in good standing, or because of other inability of the applicants to comply with the terms of the Medical-Practice Act. Certificates have also been issued to the three candidates (out of the class of nine) who successfully passed the full examination by the Board, at the meeting April 16-17, 1885. To midwives, 9 certificates have been issued, and 3 refused, upon diplomas or licenses; 10 were issued after examination (4 rejected); and 6 upon proof of over seventeen years' practice in the State (2 refused upon failure to furnish such proof).

Medical Education:

In response to a circular letter from the office of the Secretary, many of the medical colleges have already furnished copies of their Announcements for the ensuing session. From a study of these a very gratifying change is seen on the part of some schools in their attitude toward the preliminary-education requirement. A marked reduction in the number of students and of graduates at the last college sessions is also apparent, but the exact figures cannot yet be given.

As a measure tending to the advancement of medical education in an important fundamental branch—as well as in the public interest—the promoters of the practical-anatomy bill, which the Board had previously endorsed, are to be congratulated. The bill was passed by the General Assembly just adjourned, and its operation will, no doubt, inure to the benefit of the public, of the colleges, and of the profession.

Quacks and Impostors.

J. Cresap McCoy, of 1516 Lucas Place, St. Louis, Mo. of Belleville, Alton and elsewhere, and whose certificate was revoked at the special meeting held May 21, ult., has been recently represented at various points in the State by other persons under his name and by his procurement. It seems proper to recite in this connection the proceedings which led to the revocation of McCoy's certificate.

A certificate was issued to one J. C. McCoy, February 25, 1885, his diploma showing him to be a graduate of the Medical Department of the University of the City of New York, and his papers in other respects being satisfactory. On the 27th of February an advertisement appeared in the News-Democrat, of Belleville, Ill., under the caption "A Surgical Triumph," and announcing that "Dr. J. Cresap McCoy, late of Bellevue hospital, New York, has opened an office for a limited time only, in the Academy of Music Building, West Block, fronting on the Public Square, Belleville, Ill." A copy of the advertisement, submitted to the members, was adjudged to contain claims and promises with regard to the treatment and cure of the sick and afflicted which are false and fraudulent. Similar advertisements in St. Louis and Alton papers were shown, as also a copy of a 24-column sheet entitled "The St. Louis Wasp," filled with matter pertaining to "Dr. J. Cresap McCoy" and his skill, attainments and success, the whole illustrated with coarse wood-cuts of various parts of the human body and its members. McCoy was notified to appear before the Board at its April meeting, while he was still advertised at Belleville, the jurat of the constable who served the notification upon him on the 16th of March, being in evidence. May 16th, at Alton, he was again notified to appear at the special meeting, the charges against him being duly recited, and the penalty, if the charges were sustained, being stated. After due consideration of the evidence in the case, and in default of any defence, denial, or other form of response on the part of said McCoy, it was ordered that Certificate No. 6793, issued to J. Cresap McCoy on the 25th of February, 1885, and legally entitling him to practice medicine in the State of Illinois, be revoked for "unprofessional and dishonorable conduct."

It has since transpired that this professional mountebank and fraud, resorting to the artifices and tricks of a showman, has been impersonated at Belleville and Alton by one Henry H. Williams, also of St. Louis, and who holds a certificate from the Board. An attempt to serve a notification upon Williams to appear before the Board was frustrated by his failure to return to Alton. A Dr. Westmoreland, recently arrived in St. Louis, is reported to have represented himself in Alton as "Dr. J. Cresap McCoy," and to have filled McCoy's engagement there. Westmoreland's application for a certificate had been previously refused because of his connection with McCoy in St. Louis, and his practice as a physician in this State is therefore illegal even under his own name.

J. G. Gilfilan, who has been arrested and fined more than once before or practicing without a certificate, is again complained of—this time at Lenzburg, St. Clair county. He is operating a negro minstrel show, and "practices medicine" between the acts. Instructions have been sent to have him again arrested and prosecuted.

The notorious fraud and impostor, "H. D. Flower, M. D., of Fulton City," Whiteside county, is recently reported plying his vocation in Henry and Warren counties. Notwithstanding his frequent exposure by the Board he still continues to find victims among the credulous and the afflicted.

Another "exempt" under the years-of-practice clause, one "Dr. B. W. Watson, of Streator, Ill.," is also complained of by correspondents. His hand-bill "To the public" is the usual tissue of absurdly impossible claims, brazen lying and hypocritical sympathy with the afflicted, to whom he "offers the gracious boon of health and joy."

The Public Health:

With the exception of a few cases of small-pox, there has been nothing in the manifestations of the principal preventable diseases to attract special attention during the quarter. On the contrary, the general health has been exceptionally good and the death-rate unusually low. One case of small-pox was reported May 2, in the county poor-house of Union county; the patient had been confined to the house for the previous six weeks, suffering with rheumatism; two tramps from Cairo occupied the same room with him for about a week, and the contagion is attributed to them; the patient, 39 years old, had been inoculated in Ireland when a boy, but died on the eleventh day, of the confluent form of the disease; never vaccinated. On the 27th of May two children arrived in Carman, Henderson county, from Shenandoah, Iowa, where they had been exposed; both children recovered, but the grandfather contracted the disease and died; vaccination of others exposed was enforced and no more cases resulted. On the 3d of June a case was reported at Tamaroa, Perry county; a brakeman on the Illinois Central Railroad; contracted in Cairo; an elder brother contracted the disease from this case, but vaccination and revaccination were enforced as thoroughly as practicable, and no other cases followed. Within the past few days a group of cases has been discovered at Peoria. The primary case in the city contracted the disease from a family supposed to be suffering with chicken-pox on board a steamer from Germany, which arrived at New York some weeks ago. The first cases in Peoria were also supposed to be chicken-pox, and it is not known at present how many have been exposed, but vigorous precautionary measures are being enforced. A single case occurred in Quincy, and there have also been a few cases in Chicago, but without any spread in either place.

"*Vaccination After Exposure:*"

Dr. B. C. Tabor has returned his detailed report, of the outbreak at Mound City, Pulaski county. There were 144 cases in all—this large number resulting, as previously explained, from general exposure during a negro "protracted meeting," at which the contagion was introduced from Cairo. Of those attacked, 120 had never been vaccinated prior to actual exposure. After exposure to cases in their respective families, 14 of this number were vaccinated—the exposure having lasted from three days to "about a week." Of the remaining 106, thirty-eight died, being a mortality rate of 35.84 per cent. of the wholly unvaccinated. Only one, ("a confirmed epileptic, 25 years of age, vaccinated in childhood), died out of the 37 vaccinated before exposure—a mortality rate of less than three-hundreths of one per cent. The 14 vaccinated only after exposure, all recovered. The average duration of the disease among 68 non-vaccinated who recovered, was 24.01 days—the extremes 12 days and 38 days. Among the vaccinated the average duration was 15.64 days—extremes, 7 days and 30 days. Dividing these into vaccinated before exposure only, and vaccinated after exposure only, the average duration of the disease was as follows: 23 vaccinated before exposure (in infancy or childhood), average duration 16.60 days—extremes, 8 days and 30 days; 14 vaccinated for the first time after from three days' to "about one week's" exposure, average duration 12.87 days—extremes, 7 days and 28 days.

The following tabular statement brings out more clearly the point I wish to make:

Total cases	144
Total deaths	39
Mortality per cent	27.08
Total unvaccinated	106
Total deaths of unvaccinated	38
Mortality per cent	35.84
Total vaccinated	37
Total deaths of vaccinated	1
Mortality per cent	0.027
Total vaccinated before exposure only	23
Total deaths of vaccinated before exposure only	1
Mortality per cent.	0.043
Total vaccinated after exposure only	14
Total deaths of vaccinated after exposure only	0
Mortality per cent	0.00
Average duration of all cases recovered (105)	21.39 days
Average duration of unvaccinated cases (68)	24.01 days
Average duration of cases vaccinated before exposure only (23)	16.60 days
Average duration of cases vaccinated after exposure only (14)	12.87 days

Arguments with those who still question or deny the general efficacy of vaccination, properly performed, as a perfectly safe and perfectly efficient protection against small-pox, is as profitless as it would be with one who in like manner questioned or denied the demonstration of a proposition in Euclid. Therefore it is not proposed to offer any such.

But I think it worth while, in this connection, to call attention to the ectrotic action of vaccination upon the course, severity and duration of an attack of small-pox—an effect which does not seem to me either sufficiently appreciated by those who are aware of it, or understood at all by a very large number of the profession. In the Fifth Annual Report of the Board the section on the Small-Pox Epidemic of 1881-83 contains an amount of proof of this action which seems to me irresistible. I refer to the fifty-odd pages in that Report (pp. 244-295) of details compiled from the returns of the Epidemic made by several hundred physicians, whose names and addresses are therein given, and of whom further inquiry may be made by those interested; to the Notes appended to the Tabular

Statement of 1,100 cases of Small-Pox (pp. 296-327): and to Table II.—Showing Recoveries and Deaths among 1,081 Successfully Vaccinated Cases, Analyzed with Reference to Date of Vaccination in Relation to Exposure; and Table X.—Duration of Disease. 2) In Relation to Vaccinal Status. (See pages 223-229.)

This is no new discovery. I have frequently witnessed the same results in a small-pox experience of over a third of a century, and so have hundreds of others. And yet in a paper presented within a few weeks to a prominent pathological society, and which has been characterized as "one of the most notable and satisfactory contributions that have been made to the elucidation of the problem of acquired immunity against infection," the author, maintaining the doctrine of "relative immunity as of the utmost practical importance," says: "In fact it should never be lost sight of by any practitioner. It should deter us from vaccinating a person merely because he has been exposed to, or shows symptoms pointing suspiciously toward small-pox.. Already a dose of virus may have been imbibed, and for the physician to add another then, is criminal. People must protect themselves in advance of exposure. When they have been exposed it is too late. * * * Vaccination is a propylactic solely and only such after it has run its course. To use it as a cure is dangerous and reprehensible. As well might we try to save a man from an overdose of strychnine by giving him another."

It is true that the members of the society dissented unanimously from this conclusion as to the danger or uselessness of vaccinating after exposure, and some of them opposed the view that the vaccinal and variolous virus were the same; but in certain published comments on the paper occurs this passage:

"Of course, we do not agree with those who see in the effects of vaccination anything curative or palliative of a small-pox that had already taken hold of the patient before the vaccination was performed, and we put out of consideration, also, the moderate additional irritation that may be caused by such a vaccination. Our contention refers only to vaccination after *exposure* to small-pox, and not to the procedure done after the actual manifestations of the disease have begun, or even after they have become inevitable. Had Dr. * * made this distinction, if only in the debate that followed the reading of his paper, he would have spiked all his opponent's effective guns."

Details of curative and palliative medical practice are not strictly within the province of a board whose duty is defined to be the prevention of disease; but the evidence of the curative and palliative virtue of vaccination is inseparable from that proving its protective efficacy. It seems to me worth while, in view of this paper and of these editorial utterances, to reprint the deduction on this point made from such evidence in the Annual Report referred to:

Moreover, it has now come to be understood that vaccination has a positive therapeutic value, as well as prophylactic power, and where it is too late to exert the latter there may still be sufficient time to make the former available, provided the virus used act promptly. Thus, if a patient be vaccinated during the febrile stage, and the vaccination progress normally—there being nothing antagonistic between the two diseases, variola and vaccinia, to prevent such normal progress—the areolar stage of vaccination will be reached before the dangerous tenth day of the variolous disease; and, as has been repeatedly witnessed, the graver disease will be aborted, jugulated, or materially modified.—*Fifth Annual Report*, p. 503.

As was said in the comments on Table II, above referred to: *It is never too late to vaccinate.*

On the other hand, it is never too soon to vaccinate; and the spread of small-pox abroad, anticipated in the quarterly report one year ago, its repeated introduction by almost every steamer now arriving, and its already widespread existence in this country, admonish to the necessity of renewed attention to the BOARD's order concerning the vaccination of school-children. Before the beginning of the terms in the fall, I would suggest that copies of the order and the necessary instructions and blanks be again distributed to the County Superintendents of Schools.

The Cholera :

Though Asiatic cholera continues to spread in Spain, its appearance elsewhere on the continent or at other points threatening this country, has not yet been announced. Its probable extension to the Spanish possessions in the Western hemisphere, as suggested at the last meeting, has led the Secretary of the Treasury to request the Secretary of State to appoint medical inspectors at the West Indian ports, so as to secure early notification of any appearance of the disease at such places; the Mexican government has ordered a quarantine of detention to be enforced at Vera Cruz against vessels from ports of Spain; the Canadian government enforces a similar detention, and Cuba has also promulgated a set of quarantine regulations. [Cholera has been since announced at Toulon and Marseilles, and the Secretary of the Treasury has ordered the revenue marine to intercept vessels from infected or suspected ports and pilot them to the nearest inspection or quarantine station.]

The second series of sessions of the German Cholera Conference at Berlin was largely devoted to discussions of the causation of the disease; but on the day of adjournment, May 8, Prof. Koch summarized the principal measures which may be instituted against cholera, and which, as reported, agree substantially with those already presented at the National Conference of State Boards of Health held at St. Louis in October last—so far as local safeguards, sanitation, disinfection, isolation, supervision, etc., are concerned; but they ignore measures of exclusion of the disease by notification, maritime sanitation, supervision of ports of embarkation, and quarantines of inspection, observation and sanitary work at ports of arrival.

At the International Sanitary Conference in Rome, which began its sessions immediately after the adjournment of the Berlin Conference, the discussions were confined almost entirely to questions relating to the prevention of cholera. Through the efforts of Dr. Sternberg, the American delegate, the subject of yellow fever was finally considered in the same relation. The delegates to this Conference are of two classes—diplomatic and technical or professional;

but with a few exceptions they are not authorized to bind their respective governments to any course of procedure. On the whole, the technical delegates have agreed upon pretty much all that advanced sanitarians in this country consider necessary for the limitation and suppression of cholera, yellow fever and other communicable diseases which, under bad sanitary conditions of vessels and places, may become epidemic. The exceptions to such agreement were the English delegates, composed of gentlemen whose experience with cholera is mainly limited to India, and who, in consequence, deny the communicability of the disease through human intercourse, deny the infectiousness of cholera dejecta, and pronounce disinfection a farce and unscientific.

The practical benefit to be derived from these conferences—in the absence of authority to make an international sanitary convention, binding upon all interested—is the interchange of views, the dissemination of knowledge, and the formulation of the results of such views and knowledge. So far as this country is concerned they have not changed the status in any respect. We must continue to rely, for the exclusion of cholera and other Old-World pestilences, upon such precautionary measures as can be secured at ports of arrival; and in this connection, I wish to refer to the recommendations of the Committee on Disinfection, adopted by the Rome Conference. The committee, consisting of Sternberg (U. S.), Koch (Germany), Proust (France), Thorne-Thorne (England), Eck (Russia), Semmola (Italy), and Hoffmann (Austria), recommends, as a means of disinfection against Cholera, with especial reference to vessels and their reception and treatment at ports of arrival, the following:

1. Steam at 100° C. (212 Fahr.). 2. Carbolic acid and chloride of lime. 3. Aëration.

Carbolic acid and chloride of lime are to be used in aqueous solutions. Weak solutions: Carbolic acid, 2 per cent.; chloride of lime, 1 per cent. Strong solutions: Carbolic acid, 5 per cent.; chloride of lime, 4 per cent.

These means of disinfection will be applied as follows:

I. For the disinfection of the person the weak solutions should be employed.

II. For the disinfection of clothing, bedding and other articles of this kind: *a*) destruction; *b*) steam passed through the articles for one hour; *c*) boiling for thirty minutes; *d*) immersion for twenty-four hours in one of the weak disinfecting solutions; *e*) aëration for three or four weeks, but only in case the other means recommended are inapplicable. Articles of leather, such as trunks, boots, etc., should be either destroyed or washed several times with one of the weak disinfecting solutions.

III. Vomited matters and the dejections of the sick should be mixed with one of the strong disinfecting solutions, in quantity equal to the amount of material to be disinfected. Linen, clothing, bedding, etc., recently soiled by the dejections of the sick, and which cannot be immediately subjected to the action of steam, should be at once immersed in one of the strong disinfecting solutions, and left for four hours.

IV. The dead should be enveloped in a sheet saturated with one of the strong disinfecting solutions, without previous washing, and at once placed in a coffin.

V. Disinfection of merchandise and of mails is unnecessary. Steam under pressure is the only reliable agent for the disinfection of rags.

VI. When cases of cholera occur upon a vessel at sea, the locality where the case occurs should be disinfected. The floors and walls of the cabin, or other locality, should be washed at least twice with one of the weak disinfecting solutions, and then exposed freely to fresh air. In the case of objects of considerable value, which have not been in immediate contact with the sick, and which would be seriously injured by a rigorous disinfection, the physician on board may determine what measures are necessary to protect the sanitary interests of the vessel. The bilge-water should be pumped out and replaced by sea-water, at least twice at each disinfection of a vessel. The closets should be well washed with one of the strong disinfecting solutions at least twice a day.

VII. If the drinking water is open to suspicion, it should be boiled before it is used, and the boiling should be repeated, if it is not used, within twenty-four hours. All suspected food should be destroyed, or at least recently cooked.

VIII. Hospitals should be disinfected by washing the floors and walls with one of the weak disinfecting solutions, by a subsequent free ventilation and cleansing, and finally by repainting. The wards to be disinfected should, as far as possible, be isolated from those in use. The latrines should be disinfected at least twice a day by pouring into them the strong disinfecting solutions in quantity at least equal to the amount of the dejections received since the last disinfection.

IX The clothing worn by physicians and attendants should remain in the hospital, and should be regularly disinfected. Physicians and attendants should use the weak disinfecting solution for washing their hands, etc.

If these measures could be faithfully carried out during the voyage upon vessels infected with cholera and upon the arrival of such vessels—as well as upon the arrival of non-infected vessels from infected ports, so far as the measures indicated are applicable, as in the treatment of clothing, bedding and other personal effects of all immigrants—cholera-contagion might be effectually excluded from this country. The condition of maritime sanitation, however, and of sanitary administration in this country and abroad, is not yet such as to warrant implicit reliance upon measures of exclusion solely; and it is, therefore, the duty of every sanitary authority, each in its own sphere, to secure such local conditions as will be the least favorable for the growth and spread of the contagion when introduced.

To this end the work of purification and cleansing, begun a year ago in our own State with special reference to Asiatic cholera, is being pushed with unabated vigor. I have not had time to prepare any elaborate statement of this work, having been too much engrossed in securing the work itself. But the following section will give some idea of the extent of this domestic preparation against the advent of cholera.

Sanitation of the State:

This embraces, first and most importantly: A sanitary survey and house-to-house inspection, intended to secure the correction of all defects, evils and nuisances upon the premises of every individual house-holder: and the abatement of all public nuisances, the improvement and protection of water-supplies, and the general purification and cleansing of every locality. The labor involved in providing the necessary blanks, plans and instructions for this work has been very great.. In many places the enforcement of sanitary requirements was entirely new; no health organizations existed; sanitary regulations were few and inoperative, or entirely wanting. In these cases detailed written instructions, and, occasionally, personal visits were necessary. Many new health boards have been appointed and new ordinances passed or old ones amended; and in some cases voluntary associations have been organized to carry on or assist in this sanitary revolution. Instruction and information concerning matters affecting health have been eagerly sought, and, of course, furnished as fully as possible. I have been both surprised and gratified at the interest manifested. An amount of work is being accomplished which, if it continues for a few weeks longer, will put the State in a condition, as to cleanliness, which, aside from any question of cholera, cannot fail to favorably affect the public health. Among other developments of the work advice as to methods of procedure for the abatement of nuisances has been frequently sought, both by health authorities and by private individuals: in many cases local ordinances and regulations were sufficient, in others the State law concerning nuisances (Revised Statutes, Chap. 38; Criminal Code, §§221–222). Based upon the facts in each case the proper mode of proceeding was pointed out, often supplemented by letters direct to the offending parties, and in some instances, where all other efforts failed, the State's Attorney was directed to prosecute.

Appended is a list of places from which more or less detailed reports concerning the Sanitary Survey have already been received:

New Grand Chain
Pellonia
Jonesboro
Buncombe
Goreville
Eddyville
Golconda
Creal Springs
Marion
Saline Mines
Baldwin
Chester
Prairie du Rocher
Sparta
DuQuoin
Osage
McLeansboro
Grayville
School
Millstadt
Elkhorn
Richview
Laur
Fairfield
Wayne City
Kinmundy
Sandoval
Clay City
Hord
Ingraham
Xenia
Olney
Wakefield
Chauncey
Collinsville
Highland
North Alton
Sebastopol
Troy
Greenville
Farina
Effingham
Morea
Kampsville
Grafton
Jerseyville
Bunker Hill
Carlinville
Chesterfield
Dorchester
Shipman
Virden
Hillsboro
Hurricane
Nokomis
Cowden
Moweaqua
Tower Hill
Toledo
Charleston
Mattoon
White Hall
Milton
New Salem
Pearl Depot
Perry
Winchester
Jacksonville
Meredosia
Farmingdale
Lowder
Pleasant Plains
Springfield
Pana
Decatur

New Memphis
Iuka
Milmine
Chrisman
Kansas
Paris
Golden
Kellerville
Loraine
Marcelline
Mendon
Mound Station
Ashland
Beardstown
Philadelphia
Rushville
Athens
Petersburg
Kilbourn
Broadwell
Cornland
Lawndale
Mount Pulaski
New Holland
Clinton
Fullerton
Champaign
Dewey
Fisher
Foosland
Pesotum
Shiloh Centre
Thomasboro
Urbana
Danville
Oakwood
Augusta
Dallas City
Denver
LaHarpe
Nauvoo
Warsaw
Blandinsville
Bushnell
Good Hope
Hill's Grove
New Philadelphia
Sciota
Tennessee
Cuba
Farmington
Lewiston
Liverpool
Delavan
Green Valley
Gillespie
Medora
Pekin
Cropsey
Normal
Padua
Danforth
Watseka
Biggsville
Carman
Raritan
Rozetta
Terre Haute
Little York
Roseville
Swan Creek
Galesburg
Monica
Peoria
Princeville
West Hallock
Faney
Blackstone
Cayuga
Sannemin
Joy
New Boston
New Windsor
Sunbeam
Geneseo
Hawley
Morristown
Sunny Hill
Henry
Florid
Verona
Deselm
Grant Park
Kankakee
Coal Valley
Ferdinand
Illinois City
Moline
Rock Island
Mineral
Lowell
Marselles
Mendota
Meriden
Peru
Seneca
Millington
Plattville
White Willow
Monee
Macon
Sullivan
Coleta
Fulton
Leon
Pratt
Round Grove
Union Grove
Paw Paw
De Kalb
Sandwich
Sycamore
Aurora
Batavia
Blackberry
Elgin
Itasca
Evanston
Lemont
South Englewood
Lake
Argo
Lanark
Savanna
Adeline
Baileyville
Eagle Point
Forreston
Derinda Centre
Excelsior Mills
Galena
Howardsville
Freeport
Lena
Rock Grove
Yellow Creek
Pecatonica
Rockford
Winnebago
Bonus
Poplar Grove
Harvard
Hebron
Lawrence
McHenry
Marengo
Richmond
Woodstock.
Gurnee
Half Day
Highland Park
Millburn
Waukegan

[NOTE.—These towns are given in their general geographical order from the extreme southern to the extreme northern part of the State—the distribution of the blanks, etc., having been made in this order so as to secure the commencement of the work at the earliest practicable moment that the weather and other climatic conditions would permit. This enabled certain kinds of work to be prosecuted and completed before the advent of hot weather, which would make such work dangerous or offensive.]

This is a total of 238 towns and villages, representing an aggregate of nearly 80,000 inspections of houses and premises. In many places where the work has been substantially completed the duplicate returns (Tabular Statement of House-to-House Inspections) have not yet been made out, and in very many more the work is still being pushed. But the above will serve to give some idea of the magnitude of what is being done, or has already been accomplished; while the following extract from the report of the health officer of Peoria, Dr. L. H. Spaulding, for the first six weeks of the inspectors' labor (ending June 1), will indicate the character of the work in detail:

> It will be seen that they [the house-to-house inspectors] have examined a large territory, embracing about one-third of the city, taken in regular order, but including districts which most urgently required inspection. We are happy to be able to report that the citi-

zens generally have willingly complied with all orders given, and we have been compelled to prosecute only fourteen or fifteen who failed to obey instructions. The report will show that the inspectors have worked steadily and diligently and that the Board has not been idle in directing their labors:

Total number of inspections made	4,003
Total number of notices served to abate nuisances	1,663
Number of basements and cellars cleaned	511
Number of cisterns cleaned	110
Number of cesspools cleaned	26
Number of new cesspools dug	16
Number of privy vaults cleaned	195
Number of new privy vaults dug	329
Number of yards and alleys cleaned	560
Number of barn lots cleaned	126
Number of hog pens cleaned	69
Number of hog pens abated	80
Number of families using cistern water	2,780
Number of families using well water	592
Number of families using sulphur water	6
Number of families using river water	653
Number of families who deposit slops in yards, streets and alleys	2,264
Number of families who burn or dispose of them in other ways	1,440

We have ordered the rendering establishment above the water works to close up, and have notified the butchers who have slaughter houses in that locality that they will not be allowed to continue operations there. At the last meeting of the council we presented a resolution compelling slaughter houses and rendering establishments to comply with the ordinances, and to secure permits to run as such. It was referred to the police and judiciary committee. We urge the council to take this up and pass it. It confers no new powers on the board of health, but calls attention to those establishments to comply with laws already in existence. We would recommend that the council instruct the proper authorities to attend to the flushing of all sewers and paved gutters, as far as practicable, twice a week. In a former communication I spoke of making an experiment of sinking glazed pipe below low-water mark in one of our public wells, fitting a pump therein, and filling up the well. We have examined the water of the well on the corner of New street and Lincoln avenue, and find it very impure. This would be the proper place to try this experiment which we believe would prove a success.

We find that portions of Prairie street and the alley between First and Second streets are in bad condition from lack of drainage. We would recommend that they be graded, and as soon as practicable, Prairie street especially should be paved for several blocks from the intersection with Adams street.

Now that the city has gotten the streets in a pretty clean condition, it would not be amiss for the superintendent of streets and alleys to give a little more attention to the alleys. Many of them are in bad condition and need cleaning.

In Chicago a similar character of work is being prosecuted; and with the additional appropriation of $100,000, which Dr. DeWolf, the commissioner of health, has secured, the house-to-house inspection is being much more widely pushed than was deemed possible at our last meeting.

Reports have been received within a few days from nearly all the county clerks, showing a very great improvement in the condition of the public institutions, almshouses, jails, and similar establishments, and these are believed to be now in a satisfactory condition. The work which the railroad companies have done, in response to the circular of the Board, has already been alluded to;* and it is hoped to secure a thorough overhauling of the public school-buildings during the summer vacation—instructions to this end having already been forwarded to every county superintendent.

A form for a Sanitary Schedule has been prepared, based upon the schedules of Questions for the Sanitary Survey of a City or Town, originally prepared under the direction of the American Public Health Association by a committee of twenty-eight prominent sanitarians. These schedules have been revised, amplified and adapted to meet the requirements and conditions of this State, and embrace the following subjects:

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*The Missouri Pacific Railway System is conducting a very thorough sanitation of its entire property, including an Inspection based on the forms and blanks of this Board—sets of the same having been obtained for that purpose by the Chief Surgeon, Dr. W. B. Outten.

A.—Location, Population, and Climate.
B.—Topography.
C.—Water-Supply.
D.—Drainage and Sewerage.
E.—Streets, Alleys, and Public Grounds.
F.—Habitations.
G.—Gas and Lighting.
H.—Garbage and Excreta.
I.—Markets.
K.—Slaughter Houses and Abattoirs.
L.—Manufactories and Trades.
M.—Hospitals and Public Charities.
N.—Police and Prisons.
O.—Fire Establishments, etc.
P.—Cemeteries and Burials.
Q.—Public Health, Laws, Regulations, Municipal Officials.
R.—Registration and Statistics of Deaths and Diseases.
S.—Municipal Sanitary Expenses.
T.—Public Schools.

This Schedule can be compiled now better than at any other time, and when completed for a city or town it will be of the greatest value to the public-health interests. It will form a sanitary inventory for both municipal and health officials which will increase in usefulness as the population increases and the town grows. Sets of the Schedule are now being distributed in triplicate, one copy to be returned to the Board, so that, in time, we may have a complete sanitary history of every place in the State having a population of 1,000 or over.

Such sanitary reform as is indicated and implied in the foregoing is the best safeguard against cholera, as it is against many other more constant and, consequently, more destructive diseases. It is to be regretted that the stimulus of the dread of an epidemic should be necessary in order to secure it; but it is our duty to utilize the present opportunity. And in this connection it should be observed that the danger from cholera is by no means yet past. Although apparently confined to Spain, it is spreading there with rapidity; and the mere fact that its appearance in other countries has not yet been announced is anything but conclusive as to its non-existence elsewhere. It will not do to intermit any precautions or efforts for months to come, especially since it is probable that we will have unusually hot weather in the late summer and in the autumn months, to compensate for the average low temperature which has thus far obtained. It should be remembered that the most serious outbreak of the disease in Chicago during the epidemic of 1866, occurred in the month of October.

On the other hand, sanitary progress in this country and especially in this State within the past few years has been very marked; and through this we are better prepared to meet and suppress an epidemic than ever before. This is far more trustworthy and more valuable than any specific means of prevention. Dr. Ferràn may have discovered a mode of inoculating against cholera similar to Jenner's discovery of vaccination against small-pox. But this is not yet proven. And if it should be successful, sanitarians will be tempted to regret its success if it leads to neglect of conditions and observances which, while also sufficient to suppress an occasional epidemic of cholera, are absolutely necessary to the establishment and maintenance of a high standard of public health generally.

The Plymouth, Pa., Epidemic:

In my quarterly report at the October, 1882, meeting of the Board, I called attention to the undue prevalence of the typhoid fever in the State, and suggested the preparation of a pamphlet upon its sanitary features and the precautions to be taken against its spread. In a prefatory note to that pamphlet it was stated that, one year with another, over 2,000 people die annually in the State of Illinois from typhoid fever; that upwards of 14,000 more are disabled by it for an average period of two months each; that these persons are taken from all classes of the community, and at all ages between 5 and 40 years—a large proportion during the productive or self-sustaining period; and that the disease is believed, on the one hand, to be as communicable as small-pox or measles, and, on the other, is asserted to be "altogether and easily preventable." The modes of its spread and the prevention of such spread were clearly explained, and it is believed that the dissemination of this information has been of some service during the past two years. Nevertheless, both on the part of the public and of the profession, there is still much disregard of the necessary measures for the disinfection and safe disposal of the infectious discharges. The terrible result of such neglect in the case of a single patient on a hillside near Plymouth, Pa., through which originated one of the most remarkable epidemics in the history of typhoid fever, should emphasize the instructions published in this pamphlet. An epidemic of cholera might be caused in the same way under similar conditions.

Yellow Fever:

With commendable frankness the Louisiana State Board of Health promptly telegraphed a case, "suspicious of yellow fever," which died in Gretna, opposite New Orleans, on June 8, and subsequently mailed full particulars of the case. These are not conclusive as to the disease, but vigorous precautionary measures are reported to have been enforced on account of the suspicious symptoms.

The new quarantine methods and regulations of the Louisiana Board have called forth some correspondence between Drs. Swearingen and Holt, representing Texas and Louisiana, respectively. The Louisiana Board invites personal inspection of its methods, by the health authorities of the Valley, but I have had no time to make such inspection since the new system was inaugurated.

Legislation:

Besides making an appropriation of $40,000 for a contingent fund to be used in case of the outbreak or threatened outbreak of any epidemic or malignant disease, such as Asiatic cholera, small-pox or yellow fever, the General Assembly has increased the appropriations for the ordinary expenses of the Board for the next two years, so that we will be able to employ an increased clerical force, and to devote more time and attention to the registration of vital statistics than has hitherto been possible. The effort to secure amendments to the State-Board-of-Health act, so as—among other things—to facilitate the collection of returns of births and deaths, was successful in the Senate; but the bill failed to reach the house in time to receive the necessary consideration. This is regretted, since the amendments were relied upon to relieve the Board from the embarrassment occasioned by the knowledge that in this important matter—the collection and utilization of the vital statistics of the State—the results thus far achieved have not been a success and have not kept pace with the work of the BOARD in other directions. An increased clerical force will do something to remedy this, and the defects of the law must be met by a stricter enforcement of its provisions as they exist. Non-compliance of physicians with the requirement to return certificates of births and causes of death is not alone a violation of the law, but, in a certain sense, may be deemed "unprofessional and dishonorable."

The "South Fork" of the Chicago River:

I am glad to notice that the condition of the "South Fork" or the Stock-yards branch, of the Chicago river is again receiving attention. Five years ago, in a paper on the Sanitary Problems of Chicago—Past and Present, I discussed, at some length, the subject of the Chicago river and its tributaries. It is a matter which has occupied much of my attention, both personally and officially, for many years, but more particularly since 1865. I have continued to make a careful study of it and of the various plans suggested for its treatment, and such study confirms me in the views presented in the conclusion of the paper above referred to: "While this last [the construction of a ship canal from Lake Michigan to the Illinois River,] would undoubtedly afford an adequate and permanent method of disposing of the sewage of Chicago, (provided that such canal be made wide and deep enough to properly dilute the sewage,) and while possibly some of the numerous other plans which have been since suggested would achieve the result sought for, I seen no reason for modifying my conclusion above given, namely, 'that this resort to pumping is the only plan which can be adopted with sufficient promptitude to accomplish the desired end at an early day.' *It is immaterial whether this pumping be done from the South fork through a canal connection via the Stock-yards*, or by works located at the Ogden ditch and emptying into the Desplaines river; or, as is specifically recommended, by re-establishing the pumps at Bridgeport. If this last be done, so as to secure a capacity of 60,000 cubic feet per minute when desired, the facts and figures cited in the report demonstrate that substantial relief will be secured for some time to come. With the growth of the city and consequent increased production of domestic and manufacturing wastes and refuse, the time will arrive when 60,000 cubic feet per minute will not dilute the sewage to the point of inoffensiveness; but when that time arrives, additional works may be constructed at Ogden ditch with a capacity of say 150,000 cubic feet, and with these two systems the sewage of a population of a million and a half may be satisfactorily disposed of. The vital point now is speedy relief from a grave sanitary danger; one which not only affects Chicago, but which either threatens to, or actually does pollute the water supply of neighboring communities; which seriously menaces the health of river towns, and poisons the atmosphere many miles south of the source of the evil.

"Does not Chicago owe it to herself and to her neighbors to act promptly and efficiently in the matter? Can she afford to invite not only epidemic diseases, but an increased death-rate from disease largely due to this cause? Can she afford to still further incur the risk of pollution of her own water-supply and that of her neighbors on the lake? From the data presented in the foregoing pages, it seems obvious that only one available remedy exists for these imminent evils, namely, the removal of her sewage, properly diluted, by the water-courses flowing toward the Mississippi river."

This language is, substantially, as applicable now as it was in 1880, and the only additions or modifications I would now make would be to insist more strenuously on the exclusion of the Desplaines from the South branch in ordinary stages of water—as will be done when the dam at the Ogden ditch is restored by the expenditure of the appropriation recently made for that purpose by the Chicago City Council; to insist that a continuous flow of at least 50,000 cubic feet per minute be secured through the canal at this time; and that a conduit, similar to that along Fullerton avenue be constructed to flush the "South fork" with lake-water, from its head out into the South branch, or that its contents be conveyed by a sewer from the head of the fork into the South branch near the pumping works. It has not yet been demonstrated that the new pumps have the required capacity; their maximum service thus far, it is understood, has only sufficed to raise the water in the canal about 30 inches above the level of the river.

I do not hesitate to say that, with the present sewage-production of Chicago, a minimum of 50,000 cubic feet per minute flowing continuously through the canal, and taken exclusively from the South branch—the waters of the Desplaines being dammed out, except occasional freshets—will suffice to keep the Chicago river and its tributaries in a condition inoffensive to the senses and harmless to health; and that the contents of the canal would be equally inoffensive and harmless. This includes the cleansing of the North branch, by a continuous flow of lake-water into it through the Fullerton-avenue conduit; and the purification of the "South fork" by either of the methods above indicated.

John H. Rauch, Secretary.

July 1, 1885.

On motion of Dr. Mackenzie, the Secretary's report was received and ordered printed in the report of the proceedings of the meeting. In connection with the subject of the registration of vital statistics referred to in the report, Dr. Ludlam offered the following resolution, which was adopted:

Resolved, That the Secretary be and he hereby is instructed to issue a circular-letter to county clerks, to physicians and to others interested, setting forth the importance of a full and correct return of births and causes of death; calling attention to the requirements of the law on this subject; and announcing that the action of the last General Assembly has made it possible for the Board to devote the time and attention to this branch of its work necessary to make it of practical value—to which end it is essential that county clerks, physicians and midwives should fully co-operate by a strict compliance with the existing provisions of the law.

On motion of Dr. Mackenzie, it was

Resolved, That the Secretary be authorized to inspect the methods of quarantine of the Louisiana State Board of Health, and their actual operation at the stations below New Orleans; and that he also be authorized to extend his inspection of quarantine methods and regulations to such other ports and places as he may deem necessary in the interests of the public health of this State, with especial reference to the exclusion of Asiatic cholera and small-pox.

GLANDERS IN MAN.

Referring to the passage in his April report—"There is reason to suspect that many more cases of glanders occur in the human subject than are recognized, and it is certain that the disease is increasing; so that it would seem advisable that the BOARD should make a special study of the subject"—the Secretary stated that Dr. Paaren, the State Veterinarian, was present, and suggested that, as he had had much practical experience with the disease, he be invited to give his views on the subject. Dr. Paaren, being introduced to the members, made an informal statement, at the close of which the President, thanking him on behalf of the BOARD, requested that he furnish a written paper on the subject for publication. The following matter was subsequently furnished by Dr. Paaren:

The prevalence of glanders among horses in the State of Illinois, at the present time, shows the necessity of the authorities taking every possible precaution in regard to this loathsome and destructive disease. The value of the animals afflicted should be a secondary consideration; the risk to human life through communication with glandered animals should induce their owners to have them speedily destroyed. The communication of glanders to the human subject no longer remains in doubt. In proportion as glanders has prevailed, cases of death among people have multiplied, and our medical journals frequently narrate new cases of this loathsome malady. But, notwithstanding the numerous instances of the facility with which glanders is communicated from the horse to the human being, it appears to me that a belief in its transmissibility is not sufficiently diffused. Many horse owners, ignorant, or pretending ignorance, of a fact that has been demonstrated by so many sad proofs, continue to use glandered horses, to treat them with a view of curing the disease, and thus daily expose themselves and others to the danger of contagion.

Possessed of the evidence of facts that have come before me, and which I had occasion from time to time to communicate to the STATE BOARD OF HEALTH, I do not hesitate to assert that all practicing physicians, as well as veterinary surgeons, who neglect to warn their patrons and others of the danger of keeping and working glandered horses, neglect a most vital part of their vocation, and are wanting in one of the most important duties of their profession; for in cases where human life is thus perilled, an act of tolerance is equivalent to an act of commission which may be homicidal in its result.

Glanders and farcy, although they differ in exterior form and nosological symptoms, appear to have the same origin; they are different forms of one disease. They are spontaneously developed in solipeds through the medium of causes that are more or less known to us; and they can subsequently be transmitted to the human being either by contagion or infection. The farcino-glanderous affection is a contagious disease produced by the introduction of an actual animal poison into the economy.

The form of glanders termed farcy, and in which the lymphatic system first and especially suffers, has, in several instances, to my knowledge, in the human subject, been confounded with syphilis. This was, for instance, the case with the woman Mrs. Lawrenson, now confined in the Kane county poorhouse, who, before she became an inmate of that institution, was for some time treated by a physician in Elgin for syphilis, he not being acquainted with her previous history. In fact, to the superficial observer, the local appearances are not unlike.

A comparison between syphilis and the farcino-glanderous affection in the human subject has often been made. The word "chancres" being common to both diseases, has probably tended to confirm this notion. There are numerous points of resemblance between syphilis and glanders,—both are attended by pain, tumors, ulcerations, and alterations innumerable in the nasal cavities, the throat, the air passages, the osseous and cutaneous systems, etc. These points of resemblance become still more evident when the two diseases are closely compared. It will then be found that their progress, and the development of the symptoms, are equally irregular in both.

The most violent form under which the farcino-glanderous poisoning manifests itself, is that of acute glanders, as were the cases of the two men near Coleta, Whiteside county. In all the individuals attacked, glanders proves fatal, whether preceded by farcy or appearing at once. Farcy develops much more gradually, and runs its course with a degree of rapidity or slowness proportionate to the amount of resistance which it encounters in the human organization it affects, and which it destroys by degrees, the remissions observed in this disease seeming to prepare the organization for the supervention of acute glanders, which generally comes to terminate the sufferings and life of the unfortunate farcy-afflicted patient. In the three at present living cases of glanders in this State, (the woman in Kane county, and the two men, respectively, in Boone and Peoria counties), the disease began as farcy, and it has, so far as I now know, thus continued during one-half to more than one year, in a chronic state.

With respect to the slightness of the lesions of the nasal cavities of the human being when compared with the seriousness of the disease, this is by no means extraordinary, since this lesion does not constitute the disease, although it is an invariable symptom of it. Beside the local symptoms, there are other and very serious general symptoms, that precede the lesion of the nasal cavities. That general disturbance of all the functions of the economy, too much neglected by anatomo-pathologists, constitutes, properly speaking, the whole disease. It indicates the power and depth of the deleterious influences exercised by the presence of a specific virus in the organization.

The object of these remarks is to call attention to the fact that glanders, among horses, exists in nearly one-half of the one hundred and two counties in the State of Illinois, principally in the northern half of the State; and it is in this section only that it has been found to exist in mankind. It is, however, reasonable to suppose that many cases of glanders in man have existed or may at present exist, unknown or unrecognized, when it is taken into consideration that the cases I have met with and called attention to, namely, in the counties of Kane, Peoria, Boone, and Champaign, were all mistaken from the beginning by the attending physicians for other ailments.

N. H. Paaren, M. D., *State Veterinarian.*

Chicago, Ill., July, 1885.

The practical deduction from the foregoing is that, in localities where glanders among horses exists, physicians, in making up the diagnosis of an obscure case among their patients, would do well to bear in mind the resemblance of glanders in the early stages to rheumatism, typhoid fever and pyemia; and in the chronic stage to syphilis and tuberculosis. Under such circumstances the occupation and history of the sufferer should be taken into consideration; and, remembering the highly contagious nature and practical incurability of glanders, proper precautions should be observed until it is demonstrated that it is not that disease.

Sanitary Work in Chicago.

The Health Commissioner of Chicago, Dr. O. C. DeWolf, invited to meet with the Board, made a very interesting verbal statement of the work being prosecuted by him, and exhibited and explained the records, blanks, forms, regulations, etc., pertaining to the supervision exercised over buildings erected in the city during the past three years. The sanitary history and condition of every building erected during that period are matters of record in the office of the Commissioner, for the inspection and information of intending purchasers or tenants. Dr. DeWolf stated that he had been enabled, by the increased appropriation, to more than double his force of house-to-house inspectors, and expected to substantially complete the inspection by the first of August. During the past month 4,113 houses had been inspected in their regular order, and 535 through written complaints. As a result of these inspections, 4,171 notices to abate nuisances had been served, and of these 4,081 had been abated before the close of the month. The abatements include 2,914 privy vaults cleaned; 215 defective plumbing repaired; 175 plumbing traps applied; 15 water-closets ventilated; 290 drains repaired; 15 house-drains built; 457 yards cleaned; 185 catch-basins cleaned; 160 rooms lime-washed; and 157 miscellaneous.

During the afternoon session the chairman of the committee appointed at the April meeting to draft a resolution concerning the death of Dr. Black, of Adams county, submitted the following:

Mr. President:—Your committee appointed at the last quarterly meeting to prepare an expression of the Board touching the demise of Dr. Black, begs leave to offer the following resolution:

Resolved, That the Illinois State Board of Health sincerely regrets the death of Dr. Thomas G. Black, of Clayton, Adams county, whose earnest, continuous and successful efforts in his various capacities as a citizen, a soldier, a legislator and a physician, through a long, useful and honorable life—and especially in his connection with the enactment of the laws to regulate the practice of medicine, and to create and establish a State Board of Heath in Illinois—have redounded to the welfare of the State in promoting a higher standard of the medical profession and in advancing the sanitary interests of the people.

John H. Rauch.
Geo. N. Kreider.
W. R. Mackenzie.

On motion of Dr. Ludlam the report was accepted and the resolution unanimously adopted.

The Auditing Committee reported bills and accounts for the quarter, amounting to $2,987.14, examined, found correct and recommended that they be paid.

Adjourned.

MINUTES OF SPECIAL MEETING, SEPT. 29, 1885.

A special meeting of the Board was held at the Grand Pacific Hotel in Chicago, on Tuesday, Sept. 29, 1885.

Present during the session—Newton Bateman, R. Ludlam, A. L. Clark, and John H. Rauch—the President, Newton Bateman, in the chair.

The Board convened at 10 a. m., and the morning session was spent in auditing the accounts for the quarter ending Sept. 30, 1885, amounting to $4,030.97, which were ordered paid.

At 1 p. m. the Board adjourned for dinner.

The Board reconvened at 2 p. m., the same members present as at morning session, and proceeded to the consideration of cases under the "Medical-Practice Act."

Richard M. Kerley having been duly notified on September 12th, 1885, to appear before the Board at this meeting to make answer to the charge against him of unprofessional and dishonorable conduct, and which charge is as follows:

"That within the past month, in the city of Peoria, you have been in the employ of one Dr. J. I. Lighthall, a notorious mountebank and charlatan, thus aiding and abetting him in deceiving and defrauding the public."

Failed to appear either personally or by attorney, and the Board after due consideration of the documentary evidence in the case, adjudged the charge against the said Richard M. Kerley fully proven, and ordered, on motion of Dr. Ludlam, seconded by Dr. Clark, that certificate No. 7636, issued to Dr. M. Kerley August 25, 1885, entitling him to practice medicine and surgery in the State of Illinois, be and hereby is revoked.

George J. Potts having been duly notified on August 29, 1885, to appear before the Board at this meeting, to make answer to the charges of "unprofessional and dishonorable conduct," and which are as follows, viz:

1. That you have within the past three months, at the city of Belleville, in the county of St. Clair, and elsewhere in the said State of Illinois, practiced medicine in the employ of, and indirectly under the alias of "J. Cresap McCoy."

2. That under said alias you have made claims and promises with regard to the treatment of the sick and afflicted which are false and fraudulent.

Failing also to appear either in person or by attorney, the BOARD proceeded to the consideration of the evidence in the case, and adjudged him guilty as charged, and ordered, on motion of the Secretary, seconded by Dr. A. L. Clark, that certificate No. 7008, issued on June 16, 1885, to George J. Potts, entitling him to the practice of medicine and surgery in the State of Illinois, be and hereby is revoked.

Adjourned.

QUARTERLY MEETING, SPRINGFIELD, OCTOBER, 1885.

The regular quarterly meeting of the ILLINOIS STATE BOARD OF HEALTH was held in the rooms of the BOARD in the Capitol building, Springfield, Thursday and Friday, October 29–30, 1885.

Present during the sessions: Newton Bateman, A. L. Clark, W. A. Haskell and John H. Rauch—the President, Newton Bateman, in the chair.

The BOARD was called to order at 7 p. m., and the minutes of the regular quarterly meeting in July and of the special meeting in September, were read and approved.

The Auditing Committee reported that they had examined bills and accounts amounting to $154.86, found them correct, and recommended that they be paid.

Upon call for reports of officers, the Secretary presented the following:

QUARTERLY REPORT OF THE SECRETARY.

During the quarter ended September 30, 1885, there were received in the Secretary's office 1,820 written communications of all kinds, and 2,015 were sent out; and the usual quantity of the BOARD's publications—annual reports, official registers, preventable-disease circulars, etc., were distributed.

One hundred and seven certificates have been issued upon diplomas of colleges in good standing, three upon years of practice in the State, and seven duplicates upon affidavits that the originals were lost or destroyed. Thirty-four applications for certificates were refused owing to the inability or failure of the applicants to comply with the law and the rules of the BOARD.

Certificates were also issued to three midwives upon examination, to fourteen upon presentation of diplomas or certificates, and to four upon evidence of the necessary period of practice in the State. Four applications of midwives have been refused.

Medical Education:

The revision of the section upon Medical Education and the Conspectus of Colleges for the Seventh Annual Report is substantially completed, and the manuscript will be given to the printer as soon as the Summary and Tables are finished. Many gaps in the historical portion will be found to have been filled up in this edition, and its value in this respect will be considerably enhanced. This publication serves a useful purpose in enabling a comparative estimate of the status, methods, curricula, fees, etc., of any given college to be made, and its influence upon medical education in this and other ways is steadily increasing.

One of the most pronounced results is seen in the number of cases of alleged irregularities, evasions of requirements, granting diplomas in violation of published and usual conditions, etc., charges of which are constantly presented to the Board. The necessary investigations of these charges consume much time and involve considerable correspondence; but the labor thus expended is believed to be among the most profitable of any undertaken by the Board in its influence upon the colleges. During the quarter the correspondence upon this topic has extended into Minnesota, Missouri. Michigan, Indiana, Kentucky, Ohio and Pennsylvania, in addition to Illinois, and the charges involve the standing of nine different schools.

The details of this work cannot, in the nature of the case, be often made public. Charges affecting the reputation and good standing of a medical college are too serious in their consequences to be lightly or inconsiderately bruited and discussed. Even when they have been substantiated after patient and impartial investigation, it is often believed to be wiser and productive of better ultimate results to refrain from publicity if there can be secured any reasonable assurance of reform. It seems necessary to offer these remarks by way of explanation to many of those interested in promoting the efforts toward a higher standard of medical education, but who, exempt from the official responsibility which rests upon the Board through its actions and utterances, betray, occasionally, a not unnatural impatience at the reticence and deliberation which the Board deems it incumbent upon it to exercise.

While the revised Conspectus will show a marked gain in the matter of the preliminary-education requirements, and more thoroughness in examinations, the work is by no means yet complete. In this connection I would call attention to the following: A graduate of a school that has repeatedly found fault with the Board —charging that its graduates were not treated fairly, and which has heretofore failed to announce the usual preliminary-education requirements before admitting students to its classes, although at the same time claiming that the requirements were fully carried out—applied during the quarter for a certificate based upon a diploma issued June 2, 1885. In accordance with the rule of the Board exacting an examination in branches or subjects of the Schedule of Minimum Requirements omitted or neglected by the college from which the applicant is graduated, the certificate was withheld pending such examination. The matter terminated by the withdrawal of the application, the applicant having "a chance to do better in a neighboring State." His fitness for the study and practice of medicine, and the manner in which the school enforces the preliminary-education requirement, may be inferred from this final letter:

..................Ill July 1t '85

Mr. J. H. Rauch Sir

In Reply woul Say that I red one year With...... & with...... of Ohio 3 years Practiced 3 years tend Lectures the Winter of 80

& 81 Practiced in .. ..CO Ohio up to December last Then was at Collage untel the close on June 2th 85 Was born in ...... CO Ohio 1837 Taught there & in this State up to the time of reading Med thin dropeted off I was Requiered to furnish a Certificate on My first Course of Lectures Also a recomendation from My Precepter I have fulfilled the Requierements of the Collage and came here to practice but have a Chance to do better away from here

—have Baught an Intrust in a Drug Store in Ind you will send my Diploma to ...... Ill if you will send a Certificate I will be much Obliged to you if not all Rite as I am going out of the State at all evence My age is 48 years Tought 7 Schools 5 Winters in Ohio (& 2 in this State in 1864 & 5) now it remains with you the State Board Act on yours as Ever Truley

.... M. D.

Quacks and Impostors:

On my return from quarantine inspection in the latter part of August, I found complaints in the office, concerning the mountebank Lighthall, the "Indian medicine man." Accompanied by a troupe of alleged Cubans, Spaniards and Mexicans, numbering from 40 to over 100 persons according to his advertisements, he had again appeared in Peoria, and had fleeced the community of thousands of dollars. He had procured a license as an itinerant vender, from the county clerk of Peoria county. The county clerk had no authority to issue such a license, but acted under the advice of a prominent Peoria lawyer. From Peoria, Lighthall went into Stark county and attended the fair at Wyoming, by invitation of the fair managers. Their desire to add to the attractions of their show enabled Lighthall to do a profitable swindling business in this locality, and no doubt the same influences that invited him there, prevented his arrest and indictment by the grand jury of that county. From some cause, he here disbanded his troupe, to meet at St. Louis.

While in Peoria, Lighthall was joined by Dr. Richard M. Kerley, who applied for a certificate the latter part of July. Kerley having complied with all the requirements of the Board, a certificate was issued to him August 25, 1885. Two days after, it was ascertained that he was in the employ of Lighthall, and on September 29, 1885, his certificate was revoked for "unprofessional and dishonorable conduct."

Another of the victims of "Dr. J. Cresap McCoy, 1516 Lucas Place, St. Louis, Mo.," has also forfeited his right to practice in Illinois. Dr. George J. Potts, to whom the certificate of the Board was issued June 16, 1885, and who impersonated the said McCoy at Belleville and Alton, and filled his engagements. After due consideration, Potts' certificate was revoked at the meeting of September 29, ult.

McCoy has since abandoned his offices in Alton and Belleville.

Numerous complaints continue to be received concerning the so-called "Compound Oxygen Treatment." Like the "Perkins' Metallic Tractor," the "Faith Cure," "Baunscheidtism," "liver pads," various electric panaceas and kindred popular delusions, this will probably have its day, to be displaced by some new form of humbug. Whatever of good there may be in causing their patrons to breath more perfectly, is more than offset by the attendant quackery and downright lying.

Ptomaine Poisoning:

On the 13th of July, a telegram was received from Mr. M. A. Atherton, President of the Village Board of Trustees of Momence, Kankakee county, stating that thirty persons in that place had been poisoned by eating dried beef, purchased in Chicago, and requesting that a physician be sent to investigate the matter. Dr. J. H. Utley was accordingly dispatched to Momence with instructions to make the necessary investigation, and as much of the suspected beef as could be obtained was forwarded to Prof. J. H. Long, of Chicago, for chemical examinations. The reports of these gentlemen, together with that of Dr. H. M. Keyser of Momence, are herewith submitted:

MOMENCE, ILL., July 25, 1885.

JOHN H. RAUCH, M. D., *Sec'y State Board of Health.*

DEAR SIR:—Referring to your letter (No. 19,614,) bearing date July 22d, 1885—I have the honor to report the beef poisoning cases which occurred at this place July 8th. All the parties that partook of a certain piece of dried beef bought at the meat market of Mr. John Scramlin, were taken sick during the night—some more violently than others. The period intervening from the time the dried beef was eaten, until they were prostrated, was in the neighborhood of two to eight hours. The ones who were first affected were the ones that became dangerously sick. There were 37 cases, but only one death—Mrs. Dr. Shrouts dying the fourth day after contracting the poison. The symptoms presented when first attacked, were vomiting, purging and cramps, with a burning sensation of peculiar character, very much like that which is felt in milk-sickness: first, the contents of the stomach were ejected, then a glairy mucus tinged with bile; the discharges soon became dysenteric in character, without tenesmus. The tongue was covered with a dark brown fur, and dry as in the latter stages of typhoid fever. Constant desire for cold drinks, which when taken were directly ejected as soon as they reached the stomach. Extreme tenderness over the stomach and bowels, which extended to the upper and lower extremities—so much so that the patients would plead not to be touched; pulse not over 88, and no general fever in any of the cases, although now and then the temperature would rise to 100° F. The face was flushed almost to a crimson, yet at the same time the pulse was normal. In those who had passed over the menstrual period for a week or ten days, the flow returned with an unusual freedom. A number broke out over the body with rose-red eczematous patches, attended by a burning sensation, which lasted until convalescence was fully established. The tendency from the very first was to general prostration. The cases were treated upon general principles, as urgent symptoms demanded—carbolic acid with iodine, carbolic acid with bismuth, hypodermic injections of morphia, and atropia, pepsin, bismuth with morphia. The one thing which gave most relief, and at the same time arrested the vomiting, was small doses (1-12 gr.) of calomel suspended in mucilage of gum arabic; as soon as the vomiting and purging were measurably arrested, pepsin, quinine and the mineral acids were given. The convalescence is very slow, but from appearances all will recover.

Very respectfully, your obedient servant,
H. M. KEYSER.

SPRINGFIELD, ILL., July 15, 1885.

SIR:—In compliance with your request, I have visited the village of Momence, in Kankakee county, and investigated the cases of poisoning that have occurred there. It appears that during the night of the eighth and morning of the ninth of this month, about thirty-seven persons living in and about the village of Momence were suddenly attacked with symtoms of acute poisoning, viz: nausea, vomiting, purging, intense burning pain in epigastric region, thirst and great prostration. The vomited matter consisted first of whatever had been ingested; and later of greenish fluid with an intensely fetid odor. The stools were brownish ochre in color first; afterward green, becoming more and more fluid, with the same fetid odor passed by the vomit. No blood passed either in the stools or matter vomited. The tongue soon became coated with thick brown fur and the breath very offensive. The urine was scanty. Pulse and temperature remained normal. These acute symptoms gradually subsided, leaving the patient greatly prostrated.

On Thursday, the fourteenth, in company with Dr. H. M. Keyser, I visited a number of the cases and noted the following particulars: Acute symptoms for the most part gone; slight muscular pains on handling the limbs; marked debility; pupils moderately dilated; an occasional flushing of the face; in some cases movements of the body produced nausea; pulse and temperature normal; no tenderness on pressure over epigastric region. The following additional facts were obtained: All the cases suffering with above symptoms had eaten dried beef purchased from John Scramlin, butcher, at Momence. No one eating any of this meat escaped symptoms of poisoning. In one case where the beef was fried in butter before being eaten, the symptoms were the same as those following the ingestion of the raw beef. One person not liking the taste of the meat, immediately induced vomiting by artificial means, with the effect of mitigating the symptoms very materially. In one case a small piece was chewed and then thrown out of the mouth, the juice alone being swallowed. This person was poisoned with the others. In at least three instances a distinctly bitter taste was noted in the meat and commented upon. Others noted a peculiar odor and lack of firmness in the fibres. Thus far only one death has occurred, the immediate cause in this case being doubtless heart failure, as the acute symptoms had in a great measure subsided.

In addition to the above, I enclose all the samples of infected meat that could be obtained in the village.

Very respectfully, your obedient servant,
J. H. UTLEY, M. D.

To JOHN H. RAUCH, M. D.,
Sec'y Illinois State Board of Health.

CHICAGO, July 31, 1885.

DR. JOHN H. RAUCH, *Sec'y Ill. State Board of Health.*

DEAR SIR:—I have the honor to submitt to you this report of my examinations, made of the poisoned meat from Momence, collected by your authority and sent me two weeks ago for analysis. The samples received were numbered 1, 2, 3, 4 and 5, of which 1 and 3 were in alcohol, and 2, 4 and 5 dry. I wish also to refer to a sample placed in my hands by Dr. O. C. DeWolf, Health Commissioner of the city of Chicago, which sample was obtained from the house where the death occurred after eating the meat, and which I shall speak of as No. 6.

Preliminary examinations made with small portions of meat, showed the absence of metallic poisons and "worms," the presence of which was first reported from Momence. In the chemical analysis, I followed the Stas-Otto process, the chief details of which I give below, and I will add here that ethyl alcohol, ether and amyl alcohol used in my extractions, were prepared by myself, especially for toxicological work, and no pains had been spared in making them exceedingly pure. Samples 1 and 2 were minced and extracted together, 3 and 5 were taken together, and 6 alone. Sample 4 was small, and was used only for microscopic tests referred to below. In the first alcoholic extraction from the original meat, diluted sulphuric acid was used to acidify the mixture of 1 and 2 and 6, while tartaric acid was used in 3 and 5. The ether extracts from the *acid* water solution left on evaporation slight residues which gave, however, no alkaloid reaction. These ether washings were repeated twice in each case and the final ones were colorless.

The usual precautions were taken before making the next extraction from the *alkaline* water solution, and the ethereal washings here were evaporated to dryness leaving slight residues, which consisted of soluble matters from the original meat. Small amounts of sarkin and creatinine can appear here, as I have determined by parallel experiments on other meat. After expelling the dissolved ether I next treated with warm amyl alcohol as in the process given by Uslar and Erdmann. The two liquids were separated in the usual manner, and the process repeated with fresh amyl alcohol. The extracts so obtained were evaporated to dryness, and the residues tested. These were crystalline in 6, and in the mixture of 3 and 5; but amorphous in the mixture of 1 and 2, and were completely, though with difficulty, soluble in hot water and alcohol. They are colored yellowish red by strong nitric acid, and assume a light reddish color with strong sulphuric acid. They give decided alkaloid reactions with phosphomolybdic acid, metatungstic acid, tannic acid, iodide of mercury and potassium, iodine in potassium iodide, but nothing with picric acid. Of the organic bases present in normal meat, there are three which respond to some of these tests. Creatine is one of these, but its reactions with phosphomolybdic acid and metatungstic acid are to form soluble crystalline compounds, while I obtained yellowish white flocculent precipitates. Besides this, in the several processes of extraction and evaporation, small amounts of creatine could be converted into cretinine, (the reverse action sometimes takes place,) and cretinine whether so formed, or already present, gives certain alkaloid reactions. But the combinations with phosphomolybdic acid and metatungstic acid are crystalline and settle out very slowly, as I have determined in parallel tests. (See also Neubauer & Vogel's Harnanalyse, 8th edition, p. 15.) Creatinine is much more soluble than the residues I obtained, and although a small amount of it was doubtless present it could not deceive in the tests.

Another substance is sarkin, and I am inclined to think the reactions of this body have not been sufficiently considered in the discussion of the detection of animal alkaloids. It gives precipitates with phosphomolybdic acid and metatungstic acid, which are white and flocculent, but it seems to give nothing with tannic acid, or iodine in potassium iodide, at any rate not in solutions certainly stronger than were those under investigation. The phosphomolybdic acid precipitate with sarkin turns blue on addition of caustic alkali, and slowly dissolves. As I obtained a slight blue color when I applied this test, it was necessary to eliminate sarkin before going farther. Nearly the whole of the residue from the 6th sample was saved for this purpose, and I precipitated the base by the method of Strecker, as given by Neubauer, (Fres. Zeit. 1867, p. 33), with ammoniacal silver nitrate. A very slight precipitate was formed and filtered off, and after freeing the residue from the excess of silver and the ammonia compounds the tests were again applied. Sarkin was absent, and the alkaloid reactions seemed as sharp as before, indicating the presence of a body of this character. The reactions I have noted in these experiments do not correspond to those of any alkaloid with which I am acquainted, yet I think I am quite justified in affirming the presence of a body of this class. It must be also mentioned, that the amyl alcohol extracts gave immediate reduction test with potassium ferricyanide, (Brouardel and Boutmy, Fres. Zeit. 1882, p. 621).

The small quantities of material at my disposal rendered the investigation very tedious and difficult, and it is not possible to define the nature of the substance found any more closely than I have done. Without doubt it belongs to the class of bodies known as *ptomaines*, but to identify it with anything discovered by Selmi, Schwanert, Brouardel and Boutmy, Gautier or others is scarcely possible, as the investigations of none of these observers were carried out on quantities of decomposing flesh as small as I acted upon, and the results obtained were necessarily more or less incomplete. Notwithstanding recent remarkable investigations, it is yet too soon to consider any of these bodies as described with absolute certainty, and with others I would say, that the whole discussion shows the necessity of extreme caution in toxicological inquiries.

In addition to the chemical tests described above, I have also made numerous microscopic examinations of cross and longitudinal sections of the meat. A number of these were prepared for me by Dr. Lester Curtis, of this city, to whom I must here express my thanks. Sections have been made from samples 1, 2, 4 and 6, and the appearance of these indicates a diseased condition of the meat different from that of normal specimens which I have examined. The decayed appearance is not uniform throughout a section, but is found in spots, and this is perhaps more apparent in cross section than in longitudinal. In the former, groups of fibres can be found which have a loose, honey-combed appearance when looked at under a high power. It must be said, however, that I have examined many slides in which nothing abnormal could be found. In most of the sections I find an abundance of micro-organisms, some of which are very small, not more than a micro-millimeter in diameter, while others are somewhat oval and have a longer diameter of fully double this. They can be found in sections cut from the center of the several samples, and evidently in as great numbers as in those from the outside.

In his report made to your Board, Dr. J. H. Utley states that in one case the meat had been fried in butter, and the symptoms after eating it were the same as in the other cases. I consider this an important point, as it shows beyond doubt that the micro-organism referred to could not be considered the direct cause of the disease. At the temperature which meat frying in butter certainly reaches, all such bodies would be rendered harmless, while we have no ground for believing that substances of alkaloidal nature would be made inert by the same process. I am, therefore, inclined to think the micro-organisms and poisonous substance may be looked upon as cause and effect, and I consider it probable that the symptoms observed were due to the action of the latter.

Very respectfully submitted,

J. H. Long.

A perusal of the foregoing reports shows that the group of cases to which they refer is unique in that the poisoning was undoubtedly produced by ptomaines. The deleterious effects of tainted meat have been frequently observed and commented on, but in regard to the cadaveric alkaloids but little is positively known further than that they are the basic products of the decay of animal tissues; that many of them are irritant poisons; and that, under certain circumstances not yet fully determined, they are not destroyed at the temperature of a water-bath. It would appear in the present case that in a lot of beef, at least one piece was tainted; yet it was cured, placed upon the market and sold as wholesome food, with the result of poisoning thirty-seven people, of whom one died, the rest barely escaping with their lives.

In the appendix to the Health Laws of Illinois—page 46—published by the Board, appears the following:

Food-Supplies.—In general, people must win and choose their own bread and meat; but it is too obvious to need argument, that the food supplies of cities must come from a distance, and the larger the city the greater the distance. In the long transportation decay begins its work and incipient disease is engendered. Cupidity, fearing loss, conceals as best it can the damaged and tainted character of the meats and fruits it offers for sale, or tempts the poor, by a cheaper price, to buy and use its unwholesome viands. Adulteration comes to add its deceits and dangers, and the poor denizens of the city homes are beset with dangers in almost every dish which appears upon their tables. A thorough system of public inspection by competent, vigilant, well-paid and well-watched inspectors may ward off much of the danger; but the remedy should begin back of that, in a well chosen location of the abattoirs and slaughter houses in a healthful situation, where the animals destined for slaughter may have ample yards and a supply of food and water, and where the meat may be free from tainted and germ-bearing air; and in the proper location and construction of the market-houses, to allow them to be kept clean and sweet, free from all decaying animal or vegetable substances, and from all taint of pollution and disease. The best food material may be spoiled in a few hours by the absorption of filth from a polluted and poison-loaded atmosphere. Cities must meet with due care the artificial conditions which compel them to bring their food from such wide areas, or the ruined health and the scourging epidemic will surely punish their neglect.

The truth of these remarks will be generally admitted: but it is not the poor of large cities alone who are in danger; the well-to-do and the inhabitants of rural towns and villages are liable to suffer also, as shown at Momence.

The Public Health:

An unusually satisfactory condition of the public health has obtained during the quarter. Except for a short time in August, there has been no excessively high temperature, nor any sudden or violent alternation. The wind movement has been greater than the average, and these two factors—an equable and moderate temperature and abundant aeration—have combined to reduce both the sickness and death rates considerably below the average of the summer months. To some extent, no doubt, the result has been favored by the sanitary work of the last twelve months.

Since the close of the quarter an additional group of small-pox cases has been discovered at Peoria—the result of being diagnosed as chicken-pox. There have been two or three cases of this disease in Chicago, imported from Montreal, but no spread of the disease has followed. The incidents, however, are utilized in securing renewed attention to the importance of vaccination.

Sanitary Work:

At the date of the last report a total of 238 towns and villages had returned an aggregate of nearly 80,000 inspections of houses and premises, made in conformity with the Board's instructions. This has been since increased to 350 places and 117,600 houses and premises—exclusive of Chicago. About 70 per cent. of the places in the State having populations of 3,000 or more have carried out the house-to-house inspection; about 54 per cent. of those having populations between 2,000 and 3,000; and nearly 38 per cent. of those having populations between 1,000 and 2,000—the proportion of the larger towns, those most needing sanitary work, being the greatest.

Tabular statements have been received from the following places, in addition to those reported at the last meeting:

Athens
Beardstown
Bloomington
Bunker Hill
Carlinville
Chester
Collinsville
Galesburg
Geneseo
Gillespie
Grant Park
Highland
Hillsboro
La Harpe
Mt. Vernon
North Alton
Perry
Pleasant Plains
Prairie du Rocher
Rushville
Sparta
Troy
Urbana

Sanitary schedules have also been received from Pullman, Morris, Litchfield, Carlyle, Equality, Nokomis, Clayton and Carthage. About 600 letters relative to this work, have been received during the quarter from various parts of the State, giving information of what was being done, asking advice, etc., and upward of 250 replies were made to inquiries. From time to time synopses of reports and tabular statements have been prepared and furnished to the daily papers of Chicago, St. Louis and Springfield. The total number of nuisances reported as abated foots up 37,200; and including Chicago, 180,834 houses and premises have been inspected and 50,094 abatements of nuisances and insanitary conditions secured up to the close of the quarter.

Concerning the work done in Chicago, Dr. O. C. DeWolf, Commissioner of Health, has forwarded a summary report of the work performed by the tenement and house-to-house inspectors, during the first nine months of the present year. The inspectors made a total of 63,264 examinations, classified as follows, viz: 51,381 were made in places of habitation, 4,048 of which were made pursuant to requests from occupants or owners of premises examined; 10,499 were made in factories, stores and other places of employment at labor, 588 of which were made pursuant to complaints filed; and 1,384 examinations were made pursuant to State law, in new buildings in process of construction. Written reports, giving location by street and number, date of inspection and detailed description and sanitary condition of premises examined, with such other information as may have been deemed necessary, have been made for each inspection and placed among the records of the department, properly classified and alphabetically arranged for convenient future reference. All the above inspections, in places of habitation, were made in the tenement and tenant or rented class of buildings, and include about all that class of buildings which should have constant attention. From some of the most insanitary buildings, the department has removed, at the expense of the city, 2,547 loads of rubbish, filth and general debris, taken from the yards, areas and from underneath the crowded tenement-houses. This total of 63,264 examinations represents the first or original inspection only, and in no case includes a re-examination or visit, always made necessary to enforce the written notices served or suits brought for needed sanitary improvements.

A total of 19,891 written notices were served for violation of the sanitary ordinances, divided or classified as follows, viz: 19,195 were for sanitary defects in places of habitation, 16,894 of which have been complied with; 325 for violations in factories or places of employment at labor, 215 of which have been complied with; 371 were for unoccupied new buildings, all of which have been complied with.

The improved sanitary conditions effected in compliance with above notices were, viz:

Defective plumbing repaired, 2,529; traps applied to waste and soil pipes, 2,286; ventilation applied to waste and soil pipes, 44; ventilation applied to water-closet rooms, 93; ventilation applied to living rooms, 157; ventilation applied to work shops, 5; defective sewers and drains repaired, 1,546; new house sewers constructed and connected with public sewers in street, 1,123; catch basins constructed for other than new sewers, 241; catch basins cleaned, 938; catch basins repaired, 66; privy vaults cleaned, 8,225; water closets constructed, 86; rooms lime-washed, 1,021; leaky roofs repaired, 205; uninhabitable basements cleared of occupants, 11; filthy yards cleaned, 3,230; miscellaneous, 1,784. All of these improvements were made by, or at the expense of, occupants or owners of premises improved; and to show the willingness of the general public to comply with the written demands of the department, it may be stated that but 269 suits were brought in court for neglect or refusal to comply within the time specified in the notices.

Recapitulation.

HOUSE REPORT.

Special examination.	Houses examined....	Rooms.......	Families	Persons.....	Males.......	Females.....	Boys under 15...........	Girls under 15...........	Notices.....	Abatements.
4,048	47,333	426,291	97,117	446,322	228,976	217,316	84,519	81,437	19,195	16,894

FACTORY REPORT.

Special examination...	Factories ...	Stores........	Miscellaneous.........	Total	Total employed.....	Males........	Females.....	Boys under 15............	Girls under 15............	Notices	Abatements.
588	1,931	5,738	2,217	9,911	63,183	49,968	13,223	1,042	266	325	215

Quarantine on the Atlantic and Gulf Coasts:

In accordance with the resolution of the BOARD adopted at the July meeting, directing the Secretary to inspect the methods of quarantine of the Louisiana State Board of Health at the stations below New Orleans, and to extend such inspection to other ports and places in the interest of the public health of the State, with especial reference to the exclusion of Asiatic cholera and small-pox, I have personally visited and inspected the principal quarantine stations along the Atlantic and Gulf coasts, from the mouth of the St. Lawrence to the mouth of the Mississippi, and my report when completed will also embrace the Texas system to the Mexican boundary. Data are already in hand for reports on the quarantines of Canada,—the Grosse Isle inspection made since the close of the quarter—Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Louisiana and Texas. On receipt of replies to letters recently addressed to Key West and Pensacola, Fla., the compilation of this report will be completed.

In connection with the Canadian maritime quarantine system I would also call attention to the very thorough work being done by the Ontario Provincial Board of Health in restricting the spread of small-pox from Montreal westward. My visit to the Dominion, directed by the Board at the meeting of Sept. 29th, last, although exceedingly arduous, was very satisfactory. I met and conferred with the officers of the Ontario Board, and with the newly organized Central Board of Quebec, as well as with the civic and municipal officers and leading members of the profession and sanitarians. The Central Board, organized under an old law in the midst of the epidemic, has gone to work vigorously and is doing all that could be reasonably anticipated under the circumstances. The Grosse Isle quarantine establishment which I inspected on the 10th of October, is in some respects one of the best appointed in this country, and with certain additions and modifications in its administration should be a complete safeguard against cholera and small-pox invasions *via* the St. Lawrence.

Indiana Medical-Practice Act:

An act regulating the practice of medicine, surgery and obstetrics was passed by the last legislature of Indiana, the same going into effect on the 23d of July.

While the law is better than none, it is yet very defective in that it leaves the county clerks the judges of the reputable character of medical colleges, thus placing a most important trust in the hands of officials who, however honest they may be, cannot have the special requirements necessary to judge correctly regarding a medical school's standing; and it is to be feared that this provision of the law will stimulate the graduation of incompetent individuals.

At the request of the Board of Health of that State, I have furnished as many copies of the Conspectus as we could spare for the guidance and information of the county health officers.

During the past quarter I have received an unusual number of requests—many of them a source of annoyance and embarrassment—relative to the standing of medical colleges.

It is a pleasure to state that I am very frequently reminded of the existence of the re-organized State Board of Health of Missouri in a manner that promises well for the future.

Vital Statistics:

Owing to an unusual pressure of other official business, it has not been possible for me to comply with the instructions of the Board, given at its last meeting, regarding vital statistics.

The importance of accurate birth and death returns has been demonstrated to many cities and towns of the State in an unexpected and very forcible manner. In the competition for the location of the "Soldiers' Home," these statistics were desired for the years 1881-82-83-84, in order to compare the healthfulness of the various places. County clerks' offices, newspaper offices and cemetery records were ransacked for this purpose, and for the time much interest was manifested in the subject. One town reported a death-rate of only three per thousand; a majority reported from six to nine per thousand, and a few at what it really was. Being appealed to, I was obliged to say that the statements made were untrustworthy and I hope the result will be to secure more accurate returns from these places in the future, and with much less trouble.

Chicago Water-Supply:

A systematic observation of the varying character of the water-supply of Chicago was begun early in September, under direction of the Board. The chemical examinations by Prof. Long are made weekly, and coupled with the meteorological conditions, recorded and furnished by the U. S. Signal Service for this purpose, will result in a scientific determination of the relation of the purity of the water-supply to the movement of the sewage contents of the Chicago river. The data already obtained are sufficiéntly instructive, and the effect of an outward current from the river is plainly seen in the increased quantity of organic matter found in the water drawn from the hydrant in the laboratory.

[The report included a table of daily meteorological conditions and character of water drawn on given days at Chicago, between September 5 and October 25, 1885. This table is omitted here but will be found embraced in a subsequent one covering the period from July 17 to the close of the year.]

With the completion of the Ogden-ditch dam, and the exclusion of the Desplaines river from the South branch, such determinations as those obtained on September 19, should be the rule and not the exception. The water on that date is seen to have been excellent. It is to be understood, of course, that the exclusion of the Desplaines is to be followed by the continuous pumping of 50,000 cubic feet per minute, from the South branch into the canal. This amount of water, it is asserted, is the full capacity of the pumps, and not 60,000 cubic feet per minute as contracted for. If this is so, no time should be lost in remedying the defect, in view of possible contingencies next year. The removal of 50,000 cubic feet per minute as a minimum is an essential at the present time to the purity of the water supply, and conseqently to the health of Chicago. Next year a larger quantity may be needed, and ordinary prudence would dictate that provision should be made for this before the emergency arises.

John H. Rauch, Secretary.

On motion, the report of the Secretary was received and ordered printed.

The Secretary presented the statement of expenditures of the Board for the fiscal year ending September 30, 1885, amounting to $12,831.26, as per accounts and accompanying vouchers audited at the various quarterly meetings.

The Treasurer presented his annual report covering the same period, and showing an expenditure from funds in his hands of $645.09, and a balance remaining October 1, 1885, of $321.37. The report was received and referred to the Auditing Committee.

Friday, October 30, 9 o'clock a. m. The Board reconvened pursuant to adjournment; present, the same members as at yesterday's session with the addition of Dr. W. R. Mackenzie.

Dr. Mackenzie, of the Auditing Committee, reported that the annual statement of receipts and expenditures of the Treasurer was correct.

Upon motion of Dr. Haskell, the following preamble and resolutions were adopted:

Whereas: The question of the disposal of the sewage of Chicago and vicinity is not only of direct interest to the people of that city —in its bearing upon the purity of their water supply and upon the condition of the Chicago river and its branches—but no less directly concerns the sanitary interests of the communities along the Illinois and Michigan canal and the Illinois river, and thus acquires a general importance not confined to the city of Chicago nor to Cook county; and,

Whereas: The State Board of Health is charged by law with the conservation of the life and health of the people of the State: Therefore be it

Resolved, That the measures heretofore frequently recommended by the Secretary and endorsed by the Board—to-wit: The exclusion of the ordinary flow of the Desplaines river from the South branch of the Chicago river, the work on which is now well advanced, and in addition, the continuous removal of at least 50,000 cubic feet of water per minute from said South branch by pumping into the canal—are essential to the purity of the Chicago water supply, to the inoffensive condition of the Chicago river and its branches, and to a like inoffensive condition of the canal and Illinois river.

Resolved, That the results of the chemical examinations of the Chicago hydrant water, made under the direction of this Board, and which results are set forth in the current report of the Secretary, demonstrate an almost continuous sewage pollution, occasionally to such an extent as to seriously affect the healthfulness and potability of the water, and emphasize the necessity for immediate action looking to the remedy of these conditions.

Resolved, That this Board deems it of the utmost importance in the interest of the public health, not alone of Chicago, but of a considerable portion of the citizens of the State, that a commission of engineering and sanitary experts be created, with as little delay as possible, for the study of the questions involved and the formulation of a comprehensive plan for their satisfactory solution.

Resolved, That the Secretary be instructed to send a copy of these resolutions and of the report to the Mayor and city council of the city of Chicago.

During the remainder of the session, the Board was engaged in routine work, mainly in connection with the Medical-Practice Act, and medical education.

SUMMARY OF OFFICE WORK AND MISCELLANEOUS.

An aggregate of 13,518 letters, reports and other communications were received and sent out from the Secretary's office during the year 1885, 6,532 being received and 6,986 sent. The correspondence of the last quarter of the year was the largest of any similar period since the Board was organized, over 4,000 communications being received and sent. Much of the correspondence of the quarter pertained to the Official Register of Physicians and Midwives, the revision of which at the close of the year was going through the press. But the sanitary work also engrossed a large share of attention, while not only was the correspondence under the Medical-Practice Act fully as great as in any preceding quarter, but the questions were more than usually perplexing and momentous.

Of the publications of the Board there were distributed during the year 3,660 copies of the Annual Reports—3,070 of the Sixth and the remainder of the preceding volumes; 500 copies of the last Official Register and 450 copies of the Conspectus of Medical Colleges; 26,050 Quarterly Reports; 14,900 Preventable-Disease Circulars—2,000 Small-pox, 8,500 Diphtheria, 1,000 Typhoid Fever and 3,400 Scarlet Fever; 2,000 Vaccination Circulars and 50,000 Vaccination Certificates; 5,600 copies Public Health Laws and Sanitary Memoranda; 2,000 blanks for Vital Statistics and accompanying circulars of instruction; and—with especial reference to the sanitary work in anticipation of cholera—2,000 copies of the Secretary's address, Practical Recommendations Concerning the Exclusion and Prevention of Asiatic Cholera, 6,900 Circular letters to County Clerks, County Commissioners, Township Supervisors, Municipal and Health Authorities, Editors, Railway Managers and others, besides blanks for the Sanitary Inspection of 270,000 houses and premises and for the Sanitary Schedules of cities and towns.

The Seventh Annual Report,—a volume of 658 pp.—including the Report on Medical Education, was completed and printed, and its distribution begun. The Official Register was revised and put in the hands of the Public Printer. Special editions of some of the sections in the Appendix to the Seventh Annual—most importantly those pertaining to Medical Education, to the work of preparing to resist an invasion of Asiatic Cholera, etc.—were also prepared and distributed.

CERTIFICATES AND LICENSES.

Applications for certificates authorizing the practice of medicine in the State were received from 575 practitioners during the year, 83 of these during the December quarter, and 451 original certificates and 11 duplicates issued. The diplomas of 15 colleges presented by 34 graduates have been required to be supplemented by examinations on branches or subjects omitted by the schools, and in ten similar cases the applicants declined to appear for such examination and left the State. In addition to these, 114 applications were refused owing to inability of the applicants to comply with the terms of the Medical-Practice Act or the rules of the Board based thereon.* Of the total 451 original certificates issued, 436 were to graduates of medical colleges, 12 were to practitioners of more than 17 years' practice in the State, and 3 were to candidates who passed a full examination by the Board, one of these latter holding the diploma of a college which had not complied with the Schedule of Minimum Requirements. The certificates of 8 practitioners have been revoked for "unprofessional and dishonorable conduct."

To midwives 83 certificates have been issued, 44 to graduates, 22 to successful candidates upon examination, and 12 upon years of practice in the State; 23 applications have been refused mainly because of failure to pass the examination.

MEDICAL EDUCATICN.

Progress in the enforcement of the Board's Schedule of Minimum Requirements has been satisfactory. Its results for the sessions of 1884–85, are set forth in the section of the Seventh Annual Report, under the caption "Medical Education and Medical Colleges in the United States and Canada." The tables show a decrease in the number of medical students and of graduates, a marked reduction in the percentage of graduates to matriculates in some colleges where the proportion was formerly very high, and an increasing uniformity and higher standard of the requirements of the colleges.

Excluding 4 Canadian schools, the graduates of 11 out of 38 regular schools, and of four out of 12 other schools, were required to supplement their diplomas by passing examinations before the Board in those branches or subjects of the Schedule of Minimum Requirements which were omitted in the curricula or requirements of their respective colleges. In the previous year the graduates of 17 out of 31 regular, and of 4 out of 6 other schools, were required to submit to such examinations.

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*Refusals are always based on one or more of the following causes:

1. Failure to present a diploma from a legally-chartered medical institution in good standing as defined by the Board.
2. Failure to sustain a satisfactory examination sufficiently strict to test the qualifications of the candidate for the practice of medicine.
3. Personal or professional antecedents, habits or association, warranting the charge of unprofessional and dishonorable conduct.
4. Proved intent to practice in an unprofessional and dishonorable manner, as by claiming to cure incurable maladies; to possess unusual skill, experience or facilities; and similar claims involving deceit and fraud upon the public.

During the quarter a certificate was refused upon a diploma of the Kansas City Hospital Medical College, in accordance with the action of the Board at its meeting in January, 1884.

It should be again announced that diplomas issued at the close of the sessions of 1883–84, and subsequently, are accepted unconditionally—as sufficient warrant for the certificate of the Board, required by law—from all colleges which give evidence, in their Announcements and otherwise, of an actual and bona-fide compliance with the Schedule. But the diplomas of colleges which do not give such evidence are required to be supplemented by an examination before the Board, on the branches or subjects of the Schedule omitted by the colleges in question.

The figures above given show a marked improvement in the proportions of colleges now complying with these requirements. Whereas, during the first year after the Schedule took effect, more than one-half of the regular and two-thirds of the other schools (whose graduates applied for certificates) had failed to comply in one or more respects, only a little more than one-fourth of the regulars and one-third of the others were derelict during the past year.

The improvement is shown in detail in the tables embraced in the *Summary of Institutions and Students*, which—among other things—show that there were in 1885 110 colleges which exact an educational requirement as a condition of matriculation; in the first Report there were only 45. Attendance on three or more lecture-courses before graduation is required by 36 colleges, as against 22 heretofore; and provision is made for a three or four-years' graded course by 46 others. Hygiene is taught in 91 colleges, and medical jurisprudence in 97; as against 42 and 61, respectively, heretofore. The average duration of lecture-terms has increased from 23.5 weeks to a fraction over 25 weeks; 7 more colleges have lecture terms of five months or over, and 10 more have terms of six months or over as compared with the sessions of 1882–83

While this improvement in the standard and methods of medical education has been going on, it is worthy of note that the numbers of students and of graduates are diminishing—the latter in even a greater ratio than the former. The classes of the last sessions (1884–5) are less than those of any since the sessions of 1882–83. There were in attendance upon these latter sessions 13.088 students; in 1883–84 there were 12,762—a loss of over two and a-half per cent.; in 1884–85 there were 12,002—a loss of over eight per cent. since the Schedule of Minimum Requirements took effect.

At the close of the sessions of 1881–82 there were 4,555 students graduated; in 1882–83 there were 4,215; in 1883–84, 4,101 and in 1884–85 only 3,831—or nearly 16 per cent. less than from the first-named sessions.

There are three causes combined to which this result may be attributed: First, "hard times" throughout the country generally since the great business prosperity of 1882—although the value of this as one of the causes is weakened by the fact that the attendance upon the Canadian schools has increased instead of diminished. Second, a general and increasing desire on the part of the profession to elevate the standard of attainments necessary to enter its ranks. And, third, the enforcement of certain requirements in States which have enacted laws regulating the practice of medicine.

Diplomas of colleges whose educational requirements and methods of instruction fall short of the Schedule are not recognized as entitling their possessors to certificates authorizing them to practice in the State of Illinois. (This does not apply to diplomas issued prior to the sections of 1883–84, but only to those issued at the close of said sessions and subsequently.) The only way in which holders of such diplomas may legally enter upon practice in this State is by passing a satisfactory examination before the BOARD on the branches or subjects of the Schedule omitted in the college course.

This Schedule is, therefore, the test of the "good standing" of a medical college in Illinois. Only colleges which come up to this minimum standard are accounted as in "good standing." To determine the status of any given institution, it is only necessary to compare the summary of the institution set forth in the pages of the Seventh Annual Report with the Schedule therein given.

There are 239 different medical institutions, dating from the year 1765, summarized in that Report. Of this number the diplomas or licenses of 136 have been presented to the ILLINOIS STATE BOARD OF HEALTH for verification and acceptance—131 for the first time prior to the sessions of 1883–84, and the remaining 5 for the first time since that date. There are remaining in existence at this date (close of 1885) 132 institutions of medical education of all classes which are empowered to grant degrees—120 in the United States, and 12 in Canada. Among the extinct schools there are 56, out of 145 regular; 9, out of 22 homeopathic; 20, out of 31 eclectic; and 6, out of 9 physio-medical and miscellaneous. All the fraudulent institutions are now extinct.*

THE MEDICAL-PRACTICE ACT.

An unusually large number of cases have been prosecuted under the Act to Regulate the Practice of Medicine during the past year; and during the last quarter a greater number than in any corresponding period since the organization of the BOARD. In two of the recent cases the prosecution resulted in conviction; in two others The People were defeated owing to faulty presentation and conduct of the cases, and in another owing to a misconstruction of the law. In the matter of Lucas R. Williams, alias "Dr. Lucas," whose case has been heretofore fully detailed in the annual and quarterly reports, an appeal was taken from the verdict of the Criminal Court, rendered in December, 1884, and in December, 1885, Judge W. K. McAllister, one of the Justices of the Appellate Court, rendered a decision reversing the finding of the lower court, and remanded the case.

The following argument was submitted on behalf of The People:

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* By "fraudulent institutions" is meant those colleges that have sold diplomas without requiring the usual course of study and a final examination.

IN THE APPELLATE COURT OF ILLINOIS, FIRST DISTRICT.

October Term, A. D. 1885.

Lucas R. Williams, plaintiff in error, vs. *The People, etc.*, defendants in error.	Error to the Criminal Court of Cook County.

Argument for The People.

I. The plaintiff in error was convicted upon an indictment found under section 13 of the "Act to regulate the practice of medicine," for practicing medicine without complying with the provisions of that act. The case is brought before the court by appeal, upon an agreed state of facts, of which counsel for appellant, in their brief, make a statement as to one important particular, which, upon examination of the record, we claim will be found erroneous. In one line of the "statement of the case," counsel for appellant summarily dispose of the whole controversy, by setting forth as a matter of fact in the case, that plaintiff in error complied with all the provisions of that statute. We direct attention to this at the outset, because, we maintain that upon the record it affirmatively appears he did not comply with the provisions of the act, which we hereinafter briefly argue.

The chief point made by counsel for appellant, however, is that the act to regulate the practice of medicine is unconstitutional:

First, because it is in contravention of Article IV, Section 2, of the Constitution, prohibiting special legislation.

The argument is based upon the fact that the medical-practice act exempts from its operation those who have been practicing medicine for ten years within this State, while all other physicians are subject to its provisions.

Second, it is argued that the act is repugnant to Article II, sections 2 and 5 of the Constitution; also to Articles III and VI.

Article II, section 2, provides that no person shall be deprived of property without due process of law.

Article II, section 5, provides that the right of trial by jury shall remain inviolate.

Article III distributes the powers of government between the legislative, executive and judicial departments, and excludes each from the exercise of any power properly belonging to either of the others.

Article VI, section 1, vests all judicial powers in the courts.

It is claimed that the right to practice medicine is a property right, of which no one can be deprived but by due process of law; that due process of law signifies judicial proceedings in a court of competent jurisdiction; that the Board of Health is not a court, and that the act vesting the Board with power, by revocation of certificate, to deprive one of the right to practice medicine, is therefore unconstitutional.

Upon the same argument, it is also claimed, the act is repugnant o the XIVth Amendment to the Constitution of the United States.

To the learned and exhaustive argument of counsel for appellant upon these points, as to the constitutionality of the act in question, in our view, it is unnecessary here to reply. An examination of the statutes, we think, will show this court has not jurisdiction to pass upon the constitutionality of the act in question. The legislation upon this subject is comprised in such brief compass, that we quote it entire.

[The remainder of this section of the Argument is addressed entirely to the question of the jurisdiction of the Appellate Court over cases involving the adjudication of the validity and constitutionality of statutes. The following section from the Practice Act, approved June 3, 1879, would seem to be conclusive on this point:

"§ 88. Appeals from, and writs of error to Circuit courts, the Superior court of Cook county, the Criminal court of Cook county, County courts and city courts, in all criminal cases below the grade of felony, shall be taken directly to the Appellate court; and in all criminal cases above the grade of misdemeanors, and cases in which a franchise or freehold, or *the validity of a statute, or construction of the constitution is involved*, and in all cases relating to the revenue, or in which the State is interested, as a party or otherwise, *shall be taken directly to the Supreme court.*"

Notwithstanding that the argument of Williams's counsel was based mainly upon the alleged invalidity of the statute, Judge McAllister allowed the case to be brought before him; but in his decision it will be seen that he ignores this phase of the question entirely. Counsel for the People close this branch of their argument with the following paragraph:

"An examination of the very cases cited by counsel for appellant, whatever else they establish, settles that this case can only be decided upon a construction of the constitution as to property right and personal right. We, therefore, omit argument upon these questions, and submit that, even without motion—it being apparent that the question of the validity of a statute, and of the construction of the constitution is involved—this court has not jurisdiction and must dismiss this appeal."]

II. The gravity of the questions raised as to the constitutionality of the Medical-Practice Act, upon the mere statement of those questions, is at once apparent. They go to the foundation of the case. If the act establishing the Board of Health be unconstitutional, then it would be waste of labor to discuss whether the Board proceeded strictly according to the provisions of the act. If the right to practice medicine be a property right, of which no one can be deprived except by due process of law, that is, by regular proceedings in a court of competent jurisdiction and upon trial by jury, then it is not worth while to enquire whether the Board, which is not a court, did or did not conform strictly to the statute under which it acted. When the constitutional questions, of which this court has no jurisdiction, are eliminated from the case, there is so very little, if anything left, as to be hardly worth deciding; so little that it seems it might fall within the operation of the maxim "*De* *minimis non curat lex*," and should be left, together with the larger questions involved, to the only tribunal having jurisdiction to determine the same.

But counsel for appellant argue at length that in its proceedings as to the revocation of the certificate of plaintiff in error, the BOARD OF HEALTH did not comply with the requirements of the Medical-Practice Act, section 3 of which, it is claimed, requires that the BOARD shall publish notice of all its meetings. The language of section 3, however, shows that it has no such application. The clause quoted from that section by counsel for appellant, as the context makes plain, has reference solely to meetings of the BOARD for the purpose of examining applicants for certificates, and the provision requiring publication of notice obviously was intended for the convenience of medical students residing in different parts of of the State. * * *

Now, the object of publication is notice. The object of notice in case where a person holding a certificate is accused of "unprofessional or dishonorable conduct," is to bring him before the BOARD and give him an opportunity to be heard. It appears from the record that a notice in fact was served upon plaintiff in error.

The record also shows that plaintiff in error did appear before the BOARD, and attempted to defend his action as to the facts charged as constituting "unprofessional and dishonorable conduct." Even if the BOARD be considered as a court, such appearance must be held a waiver of any want of notice.

Still persisting that the BOARD, which they show is not a court, shall be held strictly to the rules of procedure in court, counsel maintain there were no charges made nor proof of any against plaintiff in error. Upon examination of the record, it will be found there was quite a full statement of the charges, and that they were, by the defendant, admitted to be true. Further, it is shown that the charges were of such sort as, in the full sense of the phrase, amounted to "unprofessional and dishonorable conduct," and manifested the utter unfitness of plaintiff in error to practice.

First is the confession, made before the BOARD, of the plaintiff in error, that he did business under an alias. It is most remarkable. Yet more so was the reason he gave for it, that it cost less to advertise because the assumed name was shorter. His name is Williams. He advertised himself as "Lucas." Can anybody believe that the difference in the cost of advertising between a word of five letters and a word of eight letters was the true reason that he concealed his identity under an alias? Do educated physicians, men engaged in honorable practice, hide themselves under an alias, after the manner of pick-pockets? Was not the BOARD OF HEALTH justified in considering the use of the alias alone as an evidence of dishonorable practice?

Next is the circular of plaintiff in error, which is made part of the record, and which establishes the unprofessional and dishonorable conduct. It contains the following:

"Dr. Lucas respectfully announces to the citizens of Chicago and vicinity that he is prepared to treat those afflicted with private, nervous and chronic diseases, and calls the attention of the suffering multitude to the fact that after a successful medical practice extending over a period of twenty years,* during which time he has been instrumental in bringing back to complete manhood and womanhood thousands of ailing mortals, *guarantees a radical and permanent cure in every case he undertakes, as can be certified to by thousands in the United States and British North America.*" * * *

"Dr. Lucas is a graduate of two regular (Allopathic and Eclectic) Medical Colleges, is well known on the Pacific coast as founder of the mammoth Bellevue Medical Institute, San Francisco, and it is a well known fact that for many years he has confined himself to the study and treatment of sexual and chronic diseases, thus giving him advantages that but few possess in the treatment and cure of private, nervous and chronic diseases. * * * * *

"Dr. Lucas addresses himself particularly to those who have already placed themselves under the care of ignorant advertising charlatans from whom they have received no benefit, and who, in fact, have done them more harm than good. Medicine, like all other sciences, is progressive, and every year shows proof of its advance. By a combination of remedies of great curative power, Dr. Lucas has so arranged his treatment that it will not only afford immediate relief, but permanent cure. * * * * *

"Many and many a bright and naturally gifted young man, endowed with genius, has permitted his case to run on and on, until remorse racked his intellect, and finally death claimed its victim. Remember that 'procrastination is the thief of time,' so lay aside your so-called pride, and consult one who thoroughly understands your ailment, *and who alone will know your case*,—in reciprocation, find permanent relief for an ailment that has made day a drudgery and night hideous.

"Middle-aged men, married or single, who are prematurely old, as the result of excesses or youthful follies, and who are troubled by too frequent evacuations of the bladder, often accompanied by a burning or smarting sensation, and finding a deposit of ropy sediment in the urine, causing nervous debility and loss of vitality, weakening the system in a manner the patient cannot account for. *In all cases a perfect cure is guaranteed, and a radical restoration of the genito-urinal organs.* All who are succumbing to the baneful practices among their sex in these modern times, will bear in mind that he will secure for them a complete and radical restoration. Possessing the ability and experience, he would prevail on suffering man to favor him and yourself with a call. His treatment is a simple one, but it embodies the principles that sustain and make life pleasant. Renovation, not prostration, is the true medical philosophy. *Your family physician, no doubt, will rack, strain and convulse your feeble structure with numberless nauseous drugs.* Dr. Lucas has happily abandoned this ignominious and fatal mode of treatment, and the enlightened world is daily recognizing it, and ardently receiving his new departure from the well worn ways of conventionalism."

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*At the date of the first publication of this statement, Lucas R. Williams, alias "Dr. Lucas, was *twenty-four years of age.*

Did ever an educated physician, an honorable physician, make such extraordinary representations to the public, as the record shows this man, in his circular, made? Did ever an educated, an honorable physician, make such enormous pretentions, and unhesitatingly assume superiority over the vast body of learned and scientific men, who, according to Williams, have persistently been and are in error, while he alone possesses the truth? Was it honorable and truthful for him to publish advertisements in which he practically promised, what every sane man knows to be impossible, to cure in every case? Who is Williams, that he *alone*, of all men in the medical profession, "will know" the case of the unhappy young men to whom he addresses this wonderful circular-specimen of his own ignorance? The whole circular stamps him as a charlatan and a quack. It accounts for his hiding himself behind an *alias*. It was fitting that, after such performance on his part, the BOARD OF HEALTH should cast him out of the great profession of medicine as a man ready to impose upon the credulity of ignorance, and with an audacity no less reckless than that manifested in his enormous pretensions and affected contempt of learning, liable in his experiments to damage health and perhaps destroy the lives of those upon whom he practiced.

It is also argued that the action of the BOARD OF HEALTH was null and void because their vote upon the case of Williams was not taken until the next day after his appearance, admission and hearing.

The record shows that on the 5th day of February, 1880, pursuant to the notice served upon him personally, Williams appeared before the BOARD, and attempted to defend his conduct, admitted the facts as to the advertisement and his publication of it, and that after the discussion, in which he took part, action in the case was deferred until the next day, when the BOARD, by a unanimous vote, concluded the proceedings by revoking his certificate. The party was served with notice, appeared, confessed the fact, was heard, and after all this, the case was "deferred" until the next day, when judgment was rendered. In view of these facts, it appears to us that the argument of the counsel for appellant upon the fact that action in the case was reserved, is entitled to precisely as little weight as the same argument would be where it should appear that after the evidence and arguments were heard, a court reserved judgment in order to consider the case, and after due consideration did enter judgment.

But it is impossible to consider the argument of appellants as to defects, or alleged defects, in the proceedings of the BOARD OF HEALTH, without discovering that the whole argument is based upon the constitutional point. It is the presentation simply of another form of argument that the right to practice medicine is a property right, of which one can only be deprived by "due process of law;" that is, by regular proceedings in a court of competent jurisdiction and upon trial by jury. On this branch of the case, therefore, no question is presented which can be decided without requiring a "construction of the constitution." The question presented upon this branch of the argument, therefore, is also one of which, by section 88 of the Practice Act, this court has no jurisdiction.

III. Counsel for plaintiff in error also argue that he could be guilty of no offense in this case on the claim that, notwithstanding the revocation of his certificate, his diploma alone gave him absolute right to practice. The claim, in substance, is that graduates holding diplomas are practically exempt from the operation of the Medical-Practice Act. The first section of that act provides:

"That every person practicing medicine in any of its departments shall possess the qualifications required by this act.

"If a graduate in medicine, he shall present his diploma to the State Board of Health, if such State board of health shall be established by law, for verification as to its genuineness. If the diploma is found genuine, and if the person named therein be the person claiming and presenting the same, the State Board of Health, if such board of health shall be established by law, or the board of examiners, shall issue its certificate to that effect, signed by all the members thereof, and such diploma *and certificate* shall be conclusive as to the right of the lawful holder of the same to practice medicine in this State."

"If not a graduate, the person practicing medicine in this State shall present himself before said Board, and submit himself to such examinations as said Board shall require, and if the examination be satisfactory to the examiners, the said Board shall issue its certificate in accordance with the facts, and the *lawful holder of such certificate* shall be entitled to all the rights and privileges herein mentioned."

Section 3 provides that they (the State Board of Health) "Shall issue certificates to all who furnish satisfactory proof of having received diplomas or licenses from a regularly chartered medical institution in good standing. They shall prepare two forms of certificates—one for persons in possession of diplomas or licenses, the other for candidates examined by the Board."

Section 10 provides:

"The State Board of Health, if such board of health shall be established by law, or board of examiners, *may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, and they may revoke certificates for like causes.*"

The whole question here raised must be determined by the construction of section 10. What did the Legislature intend by its enactment? Was it merely the object to compel every holder of a diploma to exhibit it to the Board, with proofs of his identity, or was it intended that men of unfit character and morals should be excluded from the practice of medicine? Was it intended the diploma alone should be *conclusive* as to his right to practice medicine? The statute does not so read. Section 1 provides:

"If the diploma is found genuine, and the person named therein be the person claiming and presenting the same, the State Board of Health, if such board of health be established by law, or the board of examiners, shall issue its certificate to that effect, signed by all the members thereof, and such diploma and certificate shall be conculsive as to the right of the lawful holder of the same to practice medicine."

It will be noted that it is not the diploma alone that is "conclusive as to the right of the lawful holder of the same to practice." It is the diploma "*and certificate.*"

But it is argued for appellant, that by the statute, the BOARD OF HEALTH is compelled to issue its certificate to every lawful holder of a diploma. Were reference had only to the language of section 1, such construction might be plausible. But the whole statute must be construed together. Section 10 expressly provides that the BOARD OF HEALTH "*may refuse certificates.*" If the BOARD may refuse its certificate, then, without that, the holder of a diploma has not the conclusive right to practice medicine, defined by section 1 of the act.

But it is further argued for appellant that section 10, giving the BOARD power to refuse certificates, does not apply to the graduates of medical schools. Why not? Upon an examination of the entire statute, we submit, there is nothing in its language that limits the operation of section 10 to those who are not graduates. Graduates are not in terms excepted from the operation of section 10. It is subsequent to section 1, and must be held to modify that section. It is also subsequent to section 3, which provides for two classes of certificates, namely:

"One, for persons in possession of diplomas or licenses, the other for candidates examined by the BOARD."

Now, if it was the purpose of the Legislature to confer upon the BOARD power only to refuse certificates to candidates examined by the BOARD, why was not the right to refuse certificates limited to certificates of that class only? Upon a literal construction merely, it is significant that, after having provided by a preceding section for two classes of certificates, the word "certificates" in the plural, embracing all previously mentioned, is used in section 10, by which power to refuse certificates is vested in the BOARD.

But the question need not be and cannot be reduced to that most belittling of all modes of construction—the construction literal. The reason of section 10, what it was intended to accomplish for the public good, is manifest. It was intended to exclude from the profession men whose conduct was dishonorable and unprofessional. The doctor who is so intemperate that he cannot be trusted to write prescriptions, ought not to be permitted to practice. The doctor who is so dishonorable that he cannot be trusted to keep sacred the confidence that, so many times, must be entrusted to the family physician, ought not to be permitted to practice. The doctor, no matter what his learning, who will publish to the world the self-evident lie that he can cure every case, and whose adoption of an alias warrants the inference that he is ready for sinister employment, ought not to be permitted to practice. That the Legislature had in view these and other kindred qualifications of character and morals, when enacting section 10, is clear from its language empowering the BOARD to "refuse certificates to individuals guilty of unprofessional or dishonorable conduct;" and to "revoke certificates for like causes."

The diploma goes to establish the learning of the graduate. The examination by the BOARD determines the learning of the applicant. After the exhibition of his diploma and proof of his identity, and after his examination, arises the question of character and moral qualifications. By the very terms of the statute, the BOARD is authorized to pass upon that question. The object of its enactment manifestly was to exclude men whose character unfitted them for the practice of medicine. It was not a question of learning at all;

the diploma, the mere academic honor, does not bear upon it; and there cannot be imputed to the legislature the scandalous design of licensing dishonorable and unprofessional conduct in the graduates of the schools. No reason can be given why the statute, aimed at the exclusion of men of unfit character from the medical profession, should be so construed as to render it wholly null and void, as to graduates of medical schools, even if it be conceded, as was claimed below, that the diploma is evidence, or more properly speaking, some evidence of good character, that is evidence of character at the time of its issue. The doctor of medicine makes or unmakes his character after he quits the school.

His course of practice alone can determine whether he is guilty of dishonorable conduct in his profession; and it is preposterous to claim that a diploma, a mere literary distinction, is a document of so much virtue that no matter how dishonorable may be the conduct of its holder, he is still in law to be presumed honorable and of good character. In its terms and by its spirit, section 10 of the statute empowers the Board of Health not only to refuse certificates to the holders of diplomas because of unprofessional or dishonorable conduct, but as well, for such conduct, to revoke such certificates. This was a case of revocation. The certificate was revoked by the Board of Health. Since the constitutionality of the act establishing the Board and defining its powers cannot here be determined, it must for the purpose of this argument, at least, be assumed the Board had authority to revoke the certificate. Whether there was error in the proceedings in the sense in which an Appellate Court reviews the judgment of a court below, though we have discussed the question in that view, we respectfully submit, is not a matter to be determined here. No appeal lies from the Board of Health to the Appellate Court. What might be done on *mandamus* or *certiorari* need not now be inquired into. The statute provides (section 10): "That in all cases of refusal or revocation the applicant may appeal to the body appointing the Board," which, upon proper construction, we maintain, means the Governor of the State. No such appeal has been taken. The revocation of the certificate therefore, is here but collaterally inquired into, and it must be assumed that the revocation was legal. The effect of its revocation was, of course, to utterly annul and destroy it. That left plaintiff in error without the certificate, which, by the provisions of section 1, is made the necessary complement of his diploma, in order to complete his right to practice medicine. The argument, therefore, that plaintiff in error has complete, absolute right to practice medicine, notwithstanding the revocation, is refuted both by the law and the facts of the case.

IV. Finally, it is contended by counsel that the plaintiff in error could not be found guilty under section 13 of the Medical-Practice Act. That section provides:

"Any person practicing medicine or surgery in this State, without complying with the provisions of this act, shall be punished," etc.

Proceeding again upon argument based merely upon the literal construction of the statute, counsel argue that plaintiff in error did comply with the provisions of the statute requiring the exhibition of his diploma, proof of his identity, and affirmative action upon his part with regard to the procuring of a certificate. But is this all that is intended by section 13 of the Medical-Practice Act? Was it intended merely to punish a man who, having a diploma, should neglect to present it to the Board of Health for examination as to its genuineness? Was the whole statute enacted for the paltry purpose, so far as graduates of medical schools are concerned, of merely getting upon record a list of their names? We maintain that no such construction of the section is warranted. It is the last section of the "Act to Regulate the Practice of Medicine in the State of Illinois," and it alone imposes the penalty which can render that act effective. The act, as we have shown, prescribes the conditions upon which, alike, the holder of a diploma and the student who passes the examination may practice medicine in this State. It expressly provides that the diploma alone shall not vest in the holder absolute right to practice medicine. It is only the diploma, together with the certificate of the Board, as we have already shown, that is conclusive as to the right of the holder to practice. The Board is expressly authorized, for unprofessional or dishonorable conduct, to refuse to grant the certificate, or to revoke the same after it may have been granted.

It is unnecessary here to repeat what has already been urged as to the object of the statute. The purpose is manifest throughout. It was to protect the community, not only against ignorance, but as well against charlatans, who, having mastered somewhat of the vast amount that it is possible to know concerning medical science, attempt to practice upon the credulity of the unfortunate by pretense of the possession of impossible knowledge, impossible skill and impossible sure nostrums, and who, for money enough, will guarantee a cure in every case. It was intended to exclude from the profession the conscienceless and dishonorable. The penalty could only have been intended to give effect to the preceding provisions, by providing for the punishment of those who, without the conclusive right established by diploma or examination, and a certificate, practice medicine in Illinois. No one could practice medicine in compliance with this act without not only having applied for, but having received, a certificate. To what empty and bootless conclusion would the statute be reduced, should it be held that any holder of a diploma who should refuse to exhibit it to the Board for examination as to its genuineness, together with proofs of his own identity, should be fined not more than $500 nor less than $50, or imprisoned in the county jail not less than thirty nor more than three hundred and sixty-five days, or by both? Was this penalty enacted simply to force graduates to show their papers, or was it enacted to provide for the punishment of graduates who, notwithstanding the most open and notorious, disgraceful and dishonorable professional conduct, should continue to practice after the revocation of their licenses.

But the argument cannot be limited to graduates. The ingenious literal construction claimed for appellant applies as well to those who are not graduates. Any itinerant corn doctor who never attended a lecture, who never read a page of a medical book, might "comply," as it is claimed plaintiff in error did, with the statute.

by presenting himself for examination before the Board. That is all the statute requires of him to do, affirmatively. Suppose the Board, quickly discovering his total ignorance of medicine, refuses him a certificate. Suppose that he proceeds, notwithstanding, to advertise himself as in substance the possessor of more knowledge than the entire medical profession combined, as alone qualified to guarantee a cure in every case, and as able to prove it by the thousands he has saved from untimely graves. Suppose him to be indicted for non-compliance with the provisions of the medical practice act. The same learned counsel would then maintain that the impostor had complied with the statute, and had a right, therefore, to continue his practice. But it cannot be assumed that the legislature established the Board of Health and vested it with power to inquire into the character and conduct of applicants for certificates, with the intent that this all should absolutely avail nothing to exclude quacks, and charlatans, and false pretenders, from the profession.

We do not dispute that it is the rule that penal statutes shall be construed strictly. But construed strictly as to what? Certainly not for the purpose of rendering nugatory legislation, the object of which has the sanction of the laws of nearly every civilized state and nation. Even the words of a statute may be wholly rejected, when the context makes clear that the legislature intended more than is expressed by the words of a section alone. In construing a statute, the question is, of course, whether the act denounced comes within the words of the statute. But there is no rule of law to limit the court in ascertaining the intent to a single word or a single phrase, and reference is constantly had by the courts to all the words of the statute, in order to ascertain what was intended, and this rule applies without distinction to all statutes, whether penal or otherwise.

Says Dwarris, in his work on Statutes, page 635:

"But still the intent is to be regarded, which is a primary rule, and that occasioned it to be said that equity knows no difference between penal laws and others. The question is, does the case come within the meaning of the words?" * * * * * *

"Neither is it true, as has been sometimes put, that the court in the exposition of penal statutes is to narrow the construction. 'We are to look to the words in the first instance,' said Buller, J., in *R. V. Hodnett*, 'and where they are plain we are to decide on them; if they be doubtful, we are then to have recourse to the subject-matter.' In construing penal statutes, *we must not, by refining, defeat the obvious intention of the legislature.*"

The same doctrine is laid down by our Supreme Court in *Perry County* v. *Jefferson County*, 94 Ill. 220, where the court say:

"When the intent is plain, nothing is left to construction. When the mind labors to discover the design of the legislature, it seizes everything from which aid can be derived, and in such case the title of an act claims a degree of notice, and will have its due share of consideration. *United States* v. *Fisher*, 2 Cranch, 258. In Dwarris on Statutes, page 144, among a number of rules and maxims of interpretation of statutes there are the following: Statutes must be interpreted according to the intent and the meaning, and not always according to the letter. *A thing within the intention, is within the statute, though not within the letter;* and a thing within the letter, is not within the statute, unless within the intention."

There is sufficient authority to warrant departure from the words of the statute, when to follow them would lead to an absurd consequence. In *Perry* v. *Skinner*, 2 M. & W., 471, Park, H., said:

"The rule by which we are to be guided in construing acts of parliament, is to look at the precise words, and to construe them in their ordinary sense, unless it would lead to any absurdity or manifest injustice; and if it should, so to vary and modify them as *to avoid that which certainly it could not have been the intention of the legislature should be done.*

"It is unquestionably a well settled rule of construction, *applicable as well to penal statutes as to others,* that when the words are not precise and clear, such construction will be adopted as shall appear *most reasonable and best suited to accomplish the objects of the statutes,* and when any particular construction would lead to an absurd consequence, it will be presumed that some exception or qualification was intended by the legislature, to avoid such conclusion."

To the same effect: *Walker* v. *City of Springfield*, 94 Ill. 362. *People* v. *Hoffman*, 97 Ill. 236. *Pearce* v. *Foote*, 113 Ill. 259.

There are numerous other cases that might be cited to show the extent to which the courts will go in the construction of statutes, in order to give effect to the intent of the legislature, even though it may be necessary, as was done by our own Supreme Court in the case first cited, to *reject words used, and substitute others, to carry into effect the legislative intent.* But it is not necessary, in the case at bar, that a single word of section 13 shall be rejected and another word substituted. The statute provides for the punishment of any one who shall practice medicine without complying with its provisions. What are the "provisions" of the act? Section 1 provides what shall be the qualifications required of those who practice medicine. Any one who practices medicine without possessing those qualifications, practices without complying with the provisions of the act. He is guilty of practicing without complying with the provisions of the act, when he cannot practice without violating the provisions of the act.

It is a provision of section 1, with regard to the holders of diplomas, that the diploma and certificate of the Board of Health shall be conclusive as to the right of the holder of the same to practice medicine. It is also a provision of section 1, that any person not a graduate, who shall pass examination and receive the certificate of the Board, shall be entitled to the same rights. The man who fails to pass examination, but who, notwithstanding, proceeds to practice medicine, practices without complying with the provisions of this act. It is no defense to say that he cannot comply with the provisions of the act. The object of the legislature was to exclude from practice those who could not comply with the provisions of the act. The man who holds a diploma, but who is refused a certificate because of "unprofessional and dishonorable conduct," and who nevertheless practices medicine, practices without complying with the provisions of the act by which the certificate is made a necessary complement to the diploma in order to complete his right to practice. If he holds a diploma, and had a certificate, but has been guilty of unprofessional and dishonorable conduct, for which the certificate has been revoked, he is left in the same plight. He cannot comply with the provisions of the statute making the certificate necessary to complete his qualifications to practice. He practices without possessing the qualifications which it is provided he shall possess in order to be entitled to practice.

So, we maintain, the certificate having been revoked, plaintiff in error, when he proceeded to practice medicine, practiced without complying with the provision of the act which provides that the certificate shall be necessary to complete his qualifications.

There is, in this construction of the statute, nothing to reduce it to an absurdity. There is nothing to defeat its object. It is a construction that gives effect to the plain intention of the legislature. It is a construction that makes the statute operative for the protection of the public against criminal quacks and shameless impostors. It is the only construction that can give to the statute any reasonable effect "to regulate the practice of medicine in the State of Illinois." We insist that upon the authorities and the well settled rules of statutory construction, this is the construction of this statute that should be adopted by your honors; and when that is done, it disposes altogether of the point made by appellant under this head.

In conclusion, we maintain, that upon the facts disclosed by the record, the case is plainly within the statute, and so far as that question is concerned, the judgment below should be affirmed. But in view of the importance of the constitutional questions involved, upon the determination of which depends practically the entire statute to regulate the practice of medicine, we move that instead of attempting to decide but a portion of the questions involved, the appeal should be dismissed, and the whole case left to the determination of the Supreme Court.

Text of Judge McAllister's First Decision.

Lucas R. Williams,)
vs.
The People, etc.)

Statement of Case.—Williams was indicted in the court below, and under plea of not guilty, was tried and convicted and adjudged to pay a fine of fifty dollars for alleged violation of the act entitled "An act to regulate the practice of medicine in the State of Illinois," approved May 29, 1877. He brings the record to this court for revision. The undisputed facts are that defendant below was a graduate in medicine prior to the passage of said act, he receiving a diploma from Rush Medical College of Chicago, February 16, 1875; that after the act went into force on November 22, 1877, he duly presented said diploma to the State Board of Heath for verification as required by said act; that said Board found it to be genuine and that he was the person named therein; that thereupon said Board issued to him its certificate signed by all its members certifying those facts, and he duly filed it in the office of the county clerk of Cook county for registry; that afterwards, February 6, 1880, said Board, upon notice to him, passed an order declaring said certificate revoked. It was for practicing medicine in said county, after such alleged revocation, that he was convicted as aforesaid.

Section one of that act reads: "That every person practicing medicine in any of its departments, shall possess the qualifications required by this act. If a graduate in medicine he shall present his diploma to the State Board of Health, etc., for verification as to its genuineness. If the diploma is found genuine and if the person named therein be the person claiming and presenting the same, the State Board of Health shall issue its certificate to that effect signed by all the members thereof, and such diploma and certificate shall be conclusive as to the rights of the lawful holder of the same to practice medicine in this State. If not a graduate the person practicing medicine in this State shall present himself to said Board and submit himself to such examination as the Board shall require; and if the examination be satisfactory to the examiners, the said Board shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned."

Section three declares, that the said Board shall issue certificates to all persons who furnish satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing.

Section four provides that "the verification of the diploma shall consist in the affidavit of the holder and applicant that he is a lawful possessor of the same, and that he is the person therein named. Such affidavit may be taken before any person authorized to administer oaths, and the same shall be attested under the hand and official seal of such officer, if he have a seal. Graduates may present their diplomas and affidavits, as provided in this act, by letter or by proxy, and the State Board of Health, etc., shall issue its certificate the same as though the owner of the diploma was present.

Section five provides: "All examinations of persons not graduates or licentiates, shall be made directly by the Board, and the certificates given by the Board shall authorize the possessor to practice medicine and surgery in the State of Illinois."

Sections six and seven provide for the filing and registration of certificates in the county clerk's office.

Section eight relates to the fees for examination of candidates not graduates. And section nine reads: "Examinations may be in whole or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner." Then follows section ten: "The State Board of Health may refuse certificates to individuals guilty of unprofessional or dishonorable conduct and they may revoke certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the body appointing the BOARD." The only penal clause is in section thirteen and reads: Any person practicing medicine or surgery in this State without complying with the provisions of this act shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, or by imprisonment in the county jail for a period of not less than thirty days nor more than three hundred and sixty-five days, or by both such fine and imprisonment for each and every offence. * * * Provided, that the provisious of this act shall not apply to those that have been practicing medicine ten years within this State." Hurd's Stat. p. 709-10.

McAllister, J., delivered the opinion of the Court:

The last clause of the statute excepts from its operation all persons who had been practicing medicine, in this State, for ten years prior to the act. The defendant below not having been in practice that length of time, his counsel base an argument against the constitutionality of the act, upon that and other grounds. But we find it unnecessary to consider any of those questions, because our study of all its provisions has brought us to the conclusion that, assuming the act to be valid, the case made below, upon the undisputed facts, fails to bring it fairly within the language of the penal clause. In giving the reasons for that conclusion, it is deemed proper to state certain rules of construction, which we think applicable for our guidance; the first of which is, that the statute, being penal, it should receive a strict construction. *Hankins* v. *People* 106 Ill. 632. Secondly, the several parts of the statute should receive such construction as that all may stand and have some operation. Thirdly, no construction should be put upon its provisions which is not supported by the words, even though the consequence should be to defeat the object of the act. Potter's Dwarr. on Stat., pp. 189, 207. *Frye* v. *C., B. & Q. R. R. Co.*, 73 Ill. 399.

The STATE BOARD OF HEALTH is not a judicial body, and, as respects the duty and function of verifying diplomas, its officers fall somewhat short of the true character of even quasi-judicial officers, they have so little left to their discretion. It is very clear that they possess no common law powers, and such powers as they have are derived solely from the statute, relate to two distinct classes of persons, and two distinct lines of procedure. One class of such persons consist of those who possess diplomas and present them for verification. In that case, the course of the procedure is defined. The other class consists of those who are not graduates in medicine and have no diplomas, as to which the procedure is that of an unrestricted personal examination. As to the first class, composed only of graduates in medicine, the only function of the BOARD is that of simple verification of their respective diplomas, and the identification of the person named in each. The statute has not left it to the discretion of the BOARD as to the extent of the inquiry, or the evidence by which it should be governed, but has expressly declared that the evidence shall consist of the affidavit of the applicant, taken before any officer competent to administer an oath.

When the proof is presented with the diploma, and the affidavit shows both the genuineness of the diploma and that the applicant is the person named in it, the BOARD has no discretion: the statute is mandatory, it shall issue its certificate. Indeed the applicant need not be to the trouble of going personally before the BOARD; but may make his application by having his diploma and affidavit presented to the BOARD by letter or by proxy, and the statute says the BOARD shall issue its certificate the same as if he were personally present. It is wholly different with the persons who are not graduates: they must always appear personally and submit to such examinations as the BOARD chooses to submit them to; it shall be strict, and the BOARD is limited to no prescribed proof relating to them. It is apparent from the statute, that it is intended to favor the class of persons making application upon diplomas, and thereby encourage and superinduce the pursuit of medical studies in institutions chartered for that purpose, and to the extent of obtaining a diploma. When a person not a graduate passes examination, Sec. 5 declares merely that the certificate of the BOARD shall authorize him to practice medicine, etc., while Sec. 1, speaking of applications upon diplomas, says: "If the diploma is found genuine and if the person named therein be the person claiming and presenting the same, the STATE BOARD OF HEALTH shall issue its certificate to that effect, signed by all the members thereof, and such diploma and certificate shall be conclusive as to the right to the lawful holder of the same to practice medicine in this State." The proper synonyms of the word "conclusive," as there used, which has a well known legal signification, are: irrefutable, unanswerable, final, ultimate, without appeal. Giving the diploma and certificate that effect clearly shows the intention, that when such certificate was completed by the BOARD, its functions in the premises were ended: its power exhausted and forever gone. But it is contended on behalf of the prosecution that the provisions of Sec. 10 affect that result. To do so, they must contravene the express words of Sec. 1 above quoted, must be in conflict with the unambiguous language of the provision prescribing the proof on verification, and the mandatory language upon the BOARD to issue its certificate upon that proof. Said Sec. 10 follows sections which relate exclusively to persons not graduates. Sec. 8 relates to the fees to be paid by the candidates. Sec. 9 reads: "Examinations may be in whole or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner." At such examinations, unlike the case of the certification of a diploma, the BOARD is not restricted as to the evidence or the range of inquiry. It may investigate as to character as well as to learning. Then follows section 10: "The STATE BOARD OF HEALTH may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, and they may revoke certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the body appointing the BOARD."

We have seen that, under the provisions of the first four sections of the act relating to the verification of diplomas, if the prescribed affidavit was presented with the diploma showing genuineness and identification of the person, the BOARD has no discretion: the statute is peremptory, it shall issue its certificate; and then, the statute declares that the diploma and certificate shall be conclusive as to the right of the lawful holder to practice medicine. How then, in the teeth of those provisions, can section 10 be held to apply to the class of persons having verified diplomas? The rule is that the different parts of a statute shall be so construed that each part may stand and be operative, if possible. By holding that section 10 applies only to the class of persons who are not graduates in medicine, each part of the act may then stand, and that we believe to be the true exposition of it. It is highly improbable that the Legislature intended to vest the Board with absolute power over the reputation and fortunes of all that other large class of persons called graduates in medicine, there being neither notice nor right of appeal provided for but the delusive right of appealing to a political non-judicial body. Let it be gravely considered what this matter involves. Those of the better class have expended their time and money; many of them have suffered toil, anxiety, and perhaps privations in the acquisition of a medical education in colleges chartered for that purpose. That the Legislature should attempt to vest such unguarded, irresponsible power in that Board, which might select whomsoever and so many of those graduates as it pleased, and by its own mere fiat at once strip them of all the fruits of their study and sacrifices, of even the means of a livelihood, without redress, seems shocking to contemplate. To so give such power would be flatly against the teachings of the sages of the law and the best traditions of our revolutionary history; for it naturally leads to and terminates in favoritism, abuse and oppression, and should, therefore, never be enlarged or extended by doubtful construction.

The penal clause in this statute reads: "Any person practicing medicine or surgery in this State, without complying with the provisions of this act, shall be punished by a fine," etc. Now the defendant below was a graduate in medicine, having the diploma of Rush Medical College, of Chicago, before the passage of said act. Soon after its passage, he duly presented that diploma to said Board for verification. The Board found the diploma genuine and that he was the person named therein, and issued its certificate signed by all its members to that effect, and defendant filed it in the office of the county clerk for registry. The statute declares that such diploma and certificate shall be conclusive as to his right to practice medicine in this State. There is no provision of the act he has not complied with which was applicable to him.

The conviction therefore cannot be sustained, and the judgment below must be reversed and the cause remanded for further proceedings not inconsistent with the opinion.

Judgment reversed.

Upon the rendering of this decision, counsel for The People submitted a petition for a rehearing and presented the following:

Brief in Support of Petition.

After quoting the text of the decision above given, counsel proceed—

This conclusion is reached by the application of the strictest rules of construction. The learned judge who writes the opinion, having stated that the facts do not bring the case fairly within the language of the penal clause, says:

"In giving the reasons for that conclusion, it is deemed proper to state certain rules of construction, which we think applicable for our guidance. The first of which is, that the statute being penal, it should receive a strict construction. *Hankins* v. *People*, 106 Ill. 632. Secondly, the several parts of the statute should receive such construction as that all may stand and have some operation. Thirdly, no construction should be put upon its provisions which is not supported by the words, even though the consequence should be to defeat the object of the act. Potter's Dwarr. on Stat., 189, 207. *Fry* v. *C. B. & Q. R. R. Co.*, 73 Ill. 599."

It is not our purpose to contest the soundness of these rules of construction. When, according to their true legal signification, applied to the case at bar, we maintain they require that a decision be reached directly opposite that already announced in this court. Penal statutes are to be construed strictly; but strictly how? Certainly not strictly, in the sense that the operation of the statute is to be narrowed to the least possible compass. Certainly not as though it were the bounden duty of the court to so construe penal statutes as that the least possible number of the mischiefs thereby intended to be corrected can be reached. The object of all penal laws is the public good, and they are not to be construed upon the theory that the least possible effect shall be given them. The rule of construction is aimed not at the legislative intention, but against judicial legislation by construction which adds to and goes beyond the legislative intention. The rule, when truly applied, is no less operative to prevent the practical repeal of legislative enactments by judicial construction. No better statement of the application of the rule in both these respects can be found than that given by Justice Story. This was in a case where it was urged that an indictment against a ship's master, for malicious assault upon another officer of the vessel, could not be sustained under the United States statute against malicious assault by the master or other officer upon any one or more of the crew. Upon this question, Justice Story said:

"I agree to that rule in its true and sober sense; and that is, that penal statutes are not to be enlarged by implication, or extended to cases not obviously within their words and purport. But where the words are general and include various classes of persons, I know of no authority which would justify the court in restricting them to one class, or in giving them the narrowest interpretation, where the mischief to be redressed by the statute is equally applicable to all of them. And where a word is used in a statute which has various known significations, I know of no rule that requires the court to adopt one in preference to another, simply because it is more restrained, if the objects of the statute equally apply to the largest and broadest sense of the word. In short, it appears to me *that the proper course in all these cases, is to search out and follow the true intent of the legislature, and to adopt that sense of the word which harmonizes best with the context, and promotes, in the fullest manner, the apparent policy and objects of the legislature.*" *U. S.* v. *Winn*, 3 Sumner, 209-212.

Again, the true import of the rule that penal statutes are to be construed strictly, is laid down by the Supreme Court of the United States:

"We are not unmindful that penal laws are to be construed strictly. It is said that this rule is almost as old as construction itself. But whenever invoked it comes attended with qualifications and other rules no less important. It is by the light which each contributes that the judgment of the court is to be made up. The object in construing penal, as well as other statutes, is to ascertain the legislative intent. That constitutes the law. If the language be clear, it is conclusive. There can be no construction where there is nothing to construe. The words must not be narrowed to the exclusion of what the legislature intended to embrace; but that intention must be gathered from the words, and they must be such as to leave no room for a reasonable doubt upon the subject. It must not be defeated by forced and overstrict construction. The rule does not exclude the application of common sense to the terms made use of in the act in order to avoid an absurdity, which the legislature ought not to be presumed to have intended. When the words are general, and include various classes of persons, there is no authority which would justify a court in restricting them to one class and excluding others, where the purpose of the statute is alike applicable to all. The proper course in all cases is to adopt that sense of the words which best harmonizes with the context, and promotes in the fullest manner the policy and objects of the legislature. The rule of strict construction is not violated by permitting the words of the statute to have their full meaning, or the more extended of two meanings, as the wider popular, instead of the more narrow technical one; but the words should be taken in such a sense, bent neither one way or the other, as will best manifest the legislative intent." *U. S.* v. *Hartwell*, 6 Wall. 395–6.

The rule is thus stated by Baron PARKE:

"The rule by which we are to be guided in construing acts of parliament, is to look at the precise words, and to construe them in their ordinary sense, unless it would lead to an absurdity or manifest injustice; and, if it should, so to vary and modify them as *to avoid that which certainly it could not have been the intention of the legislature should be done.*

"It is unquestionably a well settled rule of construction, *applicable as well to penal statutes as to others*, that when the words are not precise and clear, such construction will be adopted as shall appear *most reasonable and best suited to accomplish the objects of the statute*, and when any particular construction would lead to an absurd consequence, it will be presumed that some exception or qualification was intended by the legislature to avoid such conclusion." *Perry* v. *Skinner*, 2 M. & W. 471.

To the same effect is the decision of our own Supreme Court upon an application for discharge upon *habeas corpus* in *The People ex rel* v. *Hoffman, Sheriff*, 97 Ill. 234. The relator applied for discharge from arrest on a writ of *capias ad satisfaciendum.* The judgment upon which the capias issued was in assumpsit on the common counts. No affidavit was filed on which to base a capias after judgment. It was issued under section 5 of chapter 77, R. S. 1874, which is as follows:

"No execution shall issue against the body of the defendant except when the judgment shall have been obtained for a tort committed by such defendant, or unless the defendant shall have been held to bail upon the writ of *capias ad satisfaciendum*, as provided by law." etc.

Upon this point the Supreme Court said:

"If this *section of the statute* is to receive a literal construction, then the position of the relator is correct; but if, on the other hand, *the statute is to be construed* in such a way as to give it an intelligent meaning, such as will make common sense, then his position cannot be maintained. * * * There is no such thing known to the law as a defendant being held to bail under a capias of this character, but, on the other hand, it may be regarded as the final process which imprisons until the judgment is discharged. When the legislature, therefore, said that no execution shall issue against the body of a defendant unless the defendant shall have been held to bail upon a writ of *capias ad satisfaciendum*, that body did not mean what it said, nor did it intend to say what it did. But the legislature evidently intended to say unless the defendant shall have been held to bail upon a writ of *capias ad respondendum*. * * * This construction of the statute renders it consistent, harmonious and intelligent, but should it be construed literally as it reads, then no intelligent meaning can be gathered from it. * * * Under the authorities cited, and also upon principle, we are of opinion that in the construction of the section of the statute *supra*, the words '*ad satisfaciendum*' should be rejected, and the words '*ad respondendum*' should be inserted in their stead."

And upon this construction of the statute, by which its wording was changed in a case where the only question was that of the right of personal liberty, the relator was sent back to jail.

Neither is it disputed that the construction of a statute should be such as to give effect, if possible, to all of its parts. But that does not signify, as we understand the authorities, that a strict construction can be placed upon one clause of one section and that the whole statute must then be construed so as to harmonize with the strict construction of the one clause. The canon of construction in question does not signify that if a single clause construed strictly and by itself is, in its terms absolute, the whole statute must be construed not to modify that single clause. The true rule of construction with a view of sustaining all the parts, requires that the work be commenced by a consideration of the whole statute as one piece of legislation. When that has been done, the harmonious whole, which is the object of construction, has been ascertained, and it is comparatively easy to give proper construction to each of the parts which make the whole a harmonious piece of legislation. The one rule is in fact but the corollary of the other. Together they constitute but one rule.

"Penal statutes are to be construed strictly; and cases within the like mischief are not to be drawn within a clause imposing a prohibition or forfeiture, unless the words clearly comprehend the case. * * * * * But in construing a statute, we are to *take into consideration all the provisions thereof*, and to look at all the objects and entire intent of the statute. If, then, a clause is found in one section which in its general language and import is equally as applicable to other sections and provisions of the same act, as it is to the very section in which it is found, *if the true intent and policy of the act will be best promoted by reading it as applicable to all those sections, and if the public mischiefs equally within the scope of the statute would be thereby prevented, and upon a different construction those mischiefs would be left without redress*—there certainly is very strong ground to say that the clause *ought to be so interpreted as to suppress the mischiefs, and not promote or protect them;* that as its language is appropriate, so it should be construed to include them." *The Schooner Harriet,* 1 Story, pp. 251-5-6.

Other cases might be cited to the same effect. But these, we take it, are sufficient to show in what spirit and to what purpose the rule that penal statutes are to be construed strictly is applied so as to conform to the paramount rule that effect is to be given to the legislative intent.

Let us see whether, when the rule is so applied, it leads to the conclusions stated in the opinion. Let us not begin with a single clause of any one section. Let us not begin by seeking the narrowest construction. Let us set out on what, in the language of Judge Story, "is the proper course in all these cases, to search out and follow the true intent of the legislature, and to adopt that sense of the words which harmonizes best with the context, and promotes in the fullest manner the apparent policy and objects of the legislature."

The statute is entitled "An Act to Regulate the Practice of Medicine in the State of Illinois." Its provisions relate first to the conditions upon which men may enter upon the practice of medicine. That was a necessary preliminary to the regulation of the practice of medicine. But did the act stop there, it would wholly fail to meet the purpose declared in its title. Regulation implies a continuous supervision, a keeping within the limits. The legislature did not stop there. They proceeded to provide for the regulation of the practice of medicine, in the sense of subjecting it to one restriction and limitation by which the right to practice might be forfeited.

The provisions of the act, with regard to those who shall be allowed to enter upon the practice of medicine, relate to two distinct classes. First, to the learning; second, as to the character, the moral qualifications. They are the same, substantially, as those prescribed for admission to the bar. First, that the candidate shall be possessed of learning sufficient to warrant his attempting to practice in the profession; second, that his character shall be such as shows that he is not unfit to have confided to him the grave trusts belonging to that practice. It is only necessary at the beginning to inquire as to the learning of the candidate. The men in practice do not learn less. But as to the moral qualifications, with the extension of practice, they become of the greater importance. The legislature appreciated this fact, and the one cause for which it is provided a physician shall forfeit the right to practice, is for unprofessional and dishonorable conduct. These, we maintain, are the unmistakable objects of the statute considered as entire, and these are the objects which should be kept in view in construing it. They are objects which must meet the approval of every right-minded man, which have had the sanction of the legislatures of most of the States, as shown by acts similar in scope and purpose to that of the State of Illinois.

And the sole contention in this case is reduced to this:

Is the legislative intent fairly carried out by a strict, literal construction of one word, so as to render absolute the right of men in the medical profession to continue in practice in Illinois, no matter how atrocious may be their unprofessional and dishonorable conduct? This is the precise extent to which the opinion in this case goes. In asking a rehearing, we are simply asking that the court may reconsider whether it is correct in so construing this act. Is the attempt of the legislature to exclude from the practice of medicine, men guilty of unprofessional and dishonorable conduct, such an invasion of private right that it must be defeated by strict literal construction of one word?

All the authorities establish that such statute is strictly within the constitutional powers of the legislature—that it is no invasion of private rights, and that it is of a class of legislation that should especially receive construction not aimed at narrowing its operations.

The right of the legislature, in the exercise of its general police powers to regulate the exercise of any profession or vocation when necessary for the public good, cannot be questioned.

"It rests with the legislative power to prescribe the conditions upon which any avocation or calling shall be pursued, so that the door may be closed to none."—*Mobile* v. *Yuille*, 3 Ala. 140.

"The legislature of any of the States has a perfect right, under its general police power, to pass laws placing individuals under restraint in the exercise of any business, calling or profession."—*State* v. *Dent*, 25 W. Va. 1.

The Supreme Court of Minnesota, in affirming the right of the State Board of Health to refuse a certificate to a medical graduate because of dishonorable or unprofessional conduct, under a statute analogous to ours, held:

"It cannot be doubted that the legislature has authority, in the exercise of its general police power, to make such reasonable requirements as may be calculated to bar from admission to this profession dishonorable men whose principles or practices are such as to render them unfit to be entrusted with the discharge of its duties. And as the duty of determining upon these qualifications, both as to learning and skill and as to honor and moral fitness, must, from necessity, be committed to some person or body other than the legislature, we see no reason why it may not be committed to the legally constituted body of men, learned in this profession, named in this act."—*State ex rel. Powell* v. *State Med. Ex. Board*, 32 Minn. 324.

Sustaining such a clause in the Maine Medical-Practice act, the Supreme Court of the State says:

"The authors were careful that human health and life should not be exposed without some restraint by being committed to the charge of the unprincipled and vicious, so long as the law shall remain in force. It could not have been intended that persons destitute of the moral qualifications required should have full opportunity to enter professionally the families of the worthy, but unsuspected be admitted to the secrets which the sick chamber must often entrust to them."—*Thompson* v. *Hazen*, 25 Maine, 108.

That one word, the construction of which, in the opinion rendered, is made to defeat what we maintain is the true intent and manifest object of the statute, is the word "conclusive," in the first section of the act. As to that, the language of the opinion is as follows:

"Section 1, speaking of applications upon diplomas, says: If the diploma is found genuine, and if the person named therein be the person claiming and presenting the same, the STATE BOARD OF HEALTH shall issue its certificate to that effect, signed by all the members thereof, and such diploma and certificate shall be conclusive as to the right of the lawful holder of the same to practice medicine in this State. The proper synonyms of the word "conclusive," as there used, which have a well-known legal signification are: irrefutable, unanswerable, final, ultimate, without appeal. Giving the diploma and certificate that effects clearly shows that intention that when such certificate was completed by the BOARD its functions in the premises were ended; its power exhausted and forever gone. But it is contended on behalf of the prosecution, that the provisions of section 10 effect that result. To do so, they must contravene the express words of section 1 above quoted, and must be in conflict with the unambiguous language of the provision prescribing the proof on verification and the mandatory language upon the BOARD to issue its certificate upon that proof."

And upon this assumption as to the far-reaching effect of the word, "conclusive," is based the whole opinion.

We respectfully invite the attention of the court to the construction put upon the word "conclusive" in the opinion. It is that this one word is operative to confer upon the holder of a diploma from a medical college a right in the nature of property, greater than can be acquired by any species of conveyance or assurance, and greater even than the legislature under the constitution can confer, that is, a right which is not subject to regulation or control under the general police power of the State for public good.

That is the power of the State, in the language of Chief Justice Redfield, in *Thorpe* v. *Rutland & Burlington R. R. Co.*, 27 Vt. 140, "by which persons and property are subjected to all kinds of restraints and burdens in order to secure the general comfort, health, and prosperity of the State; of the perfect right in the legislature to do which no question ever was, or, upon acknowledged general principles, ever can be made, so far as natural persons are concerned." It is the right, as the same learned judge, in that very case cited, proceeds to show, of which the legislature, even by express enactment, cannot deprive the State. Is it reasonable, in view of the spirit and intent of the entire medical-practice act, that the legislature used the word "conclusive" in this sense, when the only effect of such use could be to save the holders of diplomas from being put out of or excluded from the profession for unprofessional and dishonorable conduct. "Conclusive" does signify "final," "determined," "undisputable." But it does not and cannot have given to it, the signification of non-forfeitable for violation of public law. It can signify only conclusive in the sense in which an absolute title to property is conclusive, and no right to property, however absolute and conclusive, is superior to the general police power of the State. The word, therefore, in the connection in which used, and in view of the declared purpose and intent of the act, we maintain does not, by any rule of construction. require that interpretation be put upon it which was given. Its ordinary and legal signification does not require that it should so be construed.

It is solely upon this construction, which, we maintain, is faulty› that the whole argument of the opinion as to the division of the medical profession into two classes, is based. The logical and only result of that division into two classes, as we have shown, is to wholly exempt holders of diplomas from responsibility for dishonorable and unprofessional conduct. It is urged in the opinion that "it is apparent from the statute, that it is intended to favor the class of persons making application upon diplomas, and thereby encourage and superinduce the pursuit of medical studies in institutions chartered for that purpose."

We confess our inability to comprehend in what respect immunity from responsibility for unprofessional and dishonorable conduct could be held an encouragement to the zealous medical student. The possession of the diploma implies nothing as to moral integrity of the holder. It is no guaranty against unprofessional and dishonorable conduct. It does not amount to an assurance that the high moral obligations of the profession will be complied with by the holder.

It cannot be imputed to the legislature that it intended a diploma should shield any member of the profession in dishonorable and unprofessional conduct. If the word "conclusive" be given its manifest signification in view of the context, there can arise no collision between section 1 and section 10 of the act. If the diploma be held conclusive as to the only matter upon which it can be held rationally conclusive, namely, the learning of the holder, there is an end of all conflict between the first and any other section of the act. That construction of the act would place upon an equality the classes of persons affected by it, and all members of the profession, whether holding diplomas or otherwise, would be subject to be put out of the profession for conduct showing their moral unfitness.

Section 10 would then apply with equal reason and equal justice to all who practiced medicine. It obviously was intended to so apply. It does not discriminate between holders of diplomas, and others. It reads: "THE STATE BOARD OF HEALTH * * * may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, and they may revoke certificates for like causes." The word individuals is comprehensive enough, in its ordinary and natural signification, to include all classes of persons named in the act in the designation of those to whom certificates may be issued, and in the language of Judge Story, already cited, "there is no authority which would justify the court in restricting the words to one class or in giving it the narrowest interpretation where the mischief to be remedied by the statute is equally applicable to all." The subject matter of the statute is clearly within the powers of the legislature;

to that body alone is committed the power of determining how the practice of medicine shall be regulated. No constitutional right of any citizen is invaded by the construction which we ask should be placed upon it, and we submit that the construction given should be reversed. That construction is unnecessary. It is the narrowest construction which can be given to a statute enacted for a beneficent purpose, and it is a construction which, it is maintained, must be held, to render the entire statute unconstitutional.

Addendum. Section 3 vests the Board with discretionary quasi-judicial powers as to holders of certificates. The language of the section is, "they shall issue certificates to those having received diplomas or licenses from regularly chartered medical institutions *in good standing.*" Our own Supreme Court has practically passed upon this point.

A similar provision is incorporated in the act to regulate the practice of dentistry, which provides that it shall be unlawful for any person to commence practice, etc., unless he shall have received a diploma from the faculty of some reputable dental college. In the case of *The People* v. *Dental Examiners*, 110 Ill. 181, the board of dental examiners had refused to issue a license on the ground that the college was not a reputable college, and, on mandamus, the question came before the Supreme Court. In deciding the case Judge Scholfield said:

"If it had been intended that a diploma from any dental college, or a diploma from any dental college 'duly authorized by the laws of this State, or some other of the United States, or by the laws of some foreign country, in which college * * * there was, at the time of the issue of such diploma, annually delivered a full course of lectures and instruction in dental surgery,' we presume the language would have so said. By using the word 'reputable,' we must presume the general assembly meant reputable. And since it is not used as being the equivalent and convertible term for the other requirements in regard to the college, but as in addition thereto, we must presume it was intended to be so construed.

"As a part of the current history of the times, and as an aid in arriving at the legislative intention, we know there were colleges of different kinds authorized by the laws of States in which they were located, in which there were pretended to be annually delivered full courses of instruction and lectures upon the arts and sciences professed to be taught, that were not 'reputable,' because they gradurted for money, frequently without any reference to scholarship. A diploma from such an institution afforded no evidence of scholarship or attainments in its holder. It was a fraud, and deserved no respect from anybody, and it was as against such diplomas the law was intended to protect the public, and therefore required that the colleges be 'reputable.' Whether the college be reputable or not is not a legal question, but a question of fact. So also are the requirements in regard to the annual delivery of full courses of lectures and instruction.

"These questions of fact are, by the act, submitted to the decision of the Board, not in so many words, but by the plainest and most necessary implication. Their action is to be predicated upon the existence of the requisite facts, and no other tribunal is authorized to investigate them, and of necessity, therefore, they must do so. The act of ascertaining and determining what are the facts, is in its nature judicial. It involves investigation, judgment and discretion."

And upon the ground that the function of the board of dental examiners in determining what were reputable schools, was judicial in its nature, the Supreme Court refused to allow the mandamus. This decision, we maintain, settles that, in determining whether the medical school issuing a diploma is in good standing, the BOARD OF HEALTH does act in a judicial or quasi-judicial capacity.

[IN ORDER to complete the record of this case, so far as determined, the following additional decision of Judge McAllister, delivered since the close of the year (January 13, 1886), is appended:]

McAllister, J:

The only penal clause in the statute under which plaintiff in error was convicted, and which is at all applicable to the case, is in these words: "Any person practicing medicine or surgery in this State without complying with the provisions of this act, shall be punished," etc.

The last clause of the act excepts from its operation all persons who had practiced medicine within the State for ten years. Those upon whom it does operate are practically divided into two classes, as to which the functions of the STATE BOARD OF HEALTH are essentially different. Both classes are required to possess the qualifications prescribed by the act. These classes are those who are graduates in medicine, having genuine diplomas of regularly chartered medical colleges, and those who are not. As to the former of those classes, the qualifications were: such diploma; the presentation of it with a certain prescribed affidavit to said BOARD for verification; a certificate by the BOARD, signed by all its members, that it was genuine, and that the person named therein was the person claiming and presenting it; then the filing of such certificate with the county clerk for registry. The case shows that plaintiff in error complied with each of these requirements. But it appears that some three years thereafter, said BOARD passed an order purporting to revoke such certificate or act of certification of plaintiff's diploma. The whole stress of this case rests upon that circumstance. Counsel for the prosecution maintain that, by the tenth section of the act, the BOARD was vested with the power to revoke any certificates it had made. That section says: the BOARD may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, and they may revoke certificates for like causes. And they say that the effect of such revocation was the same as if the plaintiff in error had never had any such certification of his diploma.

The statute prescribes no such effect. Indeed it is wholly silent as respects any consequence of such revocation. The question here arises whether such effect can follow by implication, so as to bring the party within said penal clause, the statute being silent, and containing no prohibition against his practicing thereafter. It seems to us that the statute itself emphatically repels and rebuts any such implication or presumption.

Section one enacts: "That every person practicing medicine in any of its departments shall possess the proper qualifications prescribed by this act. If a graduate in medicine, he shall present his diploma to the STATE BOARD OF HEALTH for verification as to its genuineness. If the diploma is found genuine, and if the person named therein be the person claiming and presenting the same, the STATE BOARD OF HEALTH shall issue its certificate to that effect, signed by all the members thereof, and *such diploma and certificate* shall be *conclusive* as to the right of the lawful holder of the same to practice medicine in this State."

The word "conclusive," as there used, has a well-defined legal signification. Its proper synonyms are: irrefutable, final. With the question, as to what powers the BOARD possesses, in regard to the making of such certification of a diploma, we have no concern in this case. What was the legal effect of it after it was made is the question. The declaration of the legislature that such diploma and certificate shall be *conclusive*, as to the right of the holder to practice medicine, is subject to no limitations as to time or qualification as to circumstances. It is clear and unambiguous, admitting of no construction. And there is no other provision of the statute which is necessarily in conflict with it.

For the court to coin and interject a counteracting phrase, would, in our opinion, be nothing but judicial legislation, which, in theory, is always condemned, but not unfrequently practiced. There is a very good reason in the nature of the case for supposing that the legislature meant just what it said; and no such serious consequences would, as counsel seem to suppose, follow that view. The legislature did not, evidently, suppose that the entire prosperity of the State depended upon giving the STATE BOARD OF HEALTH unlimited, arbitrary power over the fortunes and reputations of every person who practiced medicine. As indicative of that, we find that the act exempts from its operation all who had practiced ten years. They are entirely outside the jurisdiction of said BOARD. The principal evils aimed at were two: First, ignorance or want of scientific knowledge. Secondly, the use of diplomas either spurious as respected the holder, or emanating from a college having no title to respect. An analysis of the act clearly evinces the intention to favor the class making applications upon genuine diplomas, and to thereby encourage and superinduce the pursuit of medical studies in reputable institutions chartered for the purpose, and to the extent of obtaining a diploma. A convenient species of evidence is prescribed, viz, the affidavit of the applicant. The applicant need not appear in person, but may cause his affidavit and diploma to be presented to the BOARD for verification, by letter or by proxy. (Sec. 4.)

The spirit of the act evinces a policy of encouraging collegiate medical education. It was therefore not the intention of the legislature to give to the BOARD the power of disappointing the hope of the student who had honestly acquired such a diploma as was contemplated by the act, by destroying its value to the possessor. Hence, the legislative declaration, that such certificate and diploma should be *conclusive* as to his right to practice medicine.

No such declarative effect is given to the certificate made upon examination to a person not a graduate. The statute simply says that such certificate shall authorize the possessor to practice medicine and surgery in this State. (Sec. 5.)

Section 10, which purports to give power to the Board to revoke certificates to individuals, is associated with provisions which relate exclusively to the class who are not graduates in medicine. It is a rule of law, as well as of common sense, that in construing a statute, the court is required to carefully look at and consider all its provisions, to so construe it that all its several parts may stand, and each have some effect given to it, if possible. By construing this act so that said section ten is regarded as applying only to the individuals of the class who are not graduates in medicine, some effect and operation is given thereto, and at the same time the clear, unambiguous and unqualified declaration as to the effect of the certification of a diploma will be upheld agreeably to the intention of the legislature as manifested by the words employed.

We believe that to be the proper construction. But suppose we are mistaken, is the posture of the case any more favorable to the prosecution? As before observed, the act is entirely silent as respects any effect to follow such revocation. It enjoins no duty on the part of the practitioner as contingent upon it; nor can we see that any is implied. This is a criminal case; we are considering a penal statute. How then can this case, in any point of view, be said to come within the penal clause, "Any person practicing medicine," etc., "without complying with the provisions of this act, shall be punished," etc. Counsel have failed to point out, and we are unable to find, any provision of the statute which plaintiff in error had not complied with.

Being of opinion that no case was made out against the defendant below, within the act, the judgment will be reversed and the cause remanded.

Judgment reversed.

As a contrast to these decisions of the Appellate Court of the First District, Illinois, the following—rendered December 22, 1885, by the Supreme Court of Minnesota—are submitted.

Supreme Court, October Term, 1885.

The State of Minnesota, ex rel.
Edward D. Chapman, Relator,
vs.
The State Board of Medical
Examiners of the State of
Minnesota, Respondent.

Syllabus.—Sec. 9, ch. 125. Gen. Laws, 1883, entitled "An act to regulate the practice of medicine in the State of Minnesota," provides that "The Board of Examiners may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, *and may revoke certificates for like causes.*"

Held, that the revocation of such certificates is not an exercise of *judicial* power, and hence it may be constitutionally vested in the State Board of Medical Examiners.

Opinion.—The relator being a graduate in medicine, and having received from the University of Pennsylvania a diploma and the degree of M. D., on the 26th of January, 1884, presented his diploma to the State Board of Medical Examiners, which issued to him its certificate to that effect, pursuant to the provisions of ch. 125, Gen. Laws, 1883, entitled, "An act to regulate the practice of medicine in the State of Minnesota."

In June, 1885, complaint having been made to the Board that relator had, since the issue of certificate, been guilty of dishonorable and unprofessional conduct, it caused a copy of the complaint to be served upon him, together with a notice citing him to appear before it at a time and place named, and show cause why his certificate should not be revoked and cancelled, and he be debarred from the practice of medicine in this State.

The relator having obtained a writ of prohibition against the Board, asks to have it made absolute.

The Board was assuming to act under Sec. 9, of the statute referred to, which reads: "The Board of Examiners may refuse certificates to individuals guilty of unprofessional or dishonorable conduct *and may revoke certificates for like causes.*"

The relator concludes or takes for granted that this section assumes to give the Board power to revoke certificates issued to graduates of medicine who have diplomas, as well to those issued to non-graduates who are examined by the Board as to their qualifications. Hence we assume, without further consideration, that such is its proper construction.

The sole point made by relator, is that this act, in so far as it assumes to give the Board power to *revoke* certificates, is unconstitutional.

He concedes the right of the legislature, in the exercise of the general police power of the State, to prescribe such reasonable rules and regulations as to the qualifications of medical practitioners as are calculated to exclude incompetent or dishonest men from the profession, and to that end to require of every one who desires to practice medicine or surgery, to first obtain a license or certificate, and that the legislature may also vest in a Board of Examiners, or other administrative or executive body or board, the power to inquire and determine whether applicants possess the prescribed qualifications and to issue or refuse to issue them certificates in accordance with the result of such examination. Neither does the relator deny the power of the legislature to provide for the revocation of such certificates for cause. Indeed at this day the power to do these things cannot be seriously questioned, certainly not successfully disputed. State ex-rel. Powell *vs.* State Medical Examining Board, 32 Minn. 325.

The sole ground of relator's objection to this provision of the act, and the only one we will consider, is:

1st. The license to practice medicine when once granted is property.

2d. That the revocation of this license is the exercise of judicial power which cannot be vested in any executive or administrative board or even in the legislature itself, but only in the courts in which, by the constitution, all judicial power is vested.

3d. And hence to assume to vest this power in this board is to deprive a person of his property "without due process of law," which is forbidden by Sec. 7, Art. 1, of the Constitution of the State.

The radical fallacy in this chain of argument is the assumption that the revocation of such a license is the exercise of judicial power, "Due process of law" or "the law of the land" (which means the same thing) is not necessarily judicial proceedings. Private rights and the enjoyment of property may be interfered with by the legislative or executive as well as the judicial department of the government. Where it is declared that a person shall not be deprived of his property without "due process of law," it means such an exercise of the power of government as the settled maxims of law permit and sanction under such safeguards as these maxims prescribe for the class of cases to which the one in question belongs. Cooley Const. Lim. 436.

This constitutional guaranty, which is as old as Magna Charta, and is found in this or in an equivalent form in every American Constitution, is intended to secure the citizen from the arbitrary exercise of the powers of government unrestrained by the established principles of right and distributive justice. The validity of a statute which interferes with a man's enjoyment of his property is to be tested by those principles of civil and constitutional protection which have become established in our system of laws. Bank of Columbia v. Okey, 6 Wheat. 235. Murray's Lessee v. Hoboken Land Co. 18 How. 272. Davidson v. New Orleans, 96 U. S. 97. Cooley Const. Lim. 435.

Taxation in one sense takes a man's property, yet it was never suggested that proceedings to enforce and collect a tax must be judicial.

So the exercise of the general police power of the State often materially interferes with or restricts a person's enjoyment of his property; yet it was never held that for that reason it was the exercise of the judicial power, or that if not exercised by judicial proceedings in court it was not "due process of law" or "the law of the land."

It has never been held that the granting or refusing to grant such a license as this was the exercise of judicial power, and in fact this is not claimed in this case, and there is no possible distinction in this respect between refusing to grant a license and revoking one already granted. Both acts are an exercise of the police power. The power exercised and the object of its exercise are, in both cases, identical, viz: to exclude an incompetent or unworthy person from this employment. Therefore the same body which may be vested with the power to grant or refuse to grant a license may also be vested with the power to revoke.

The statutes of all the States are full of enactments giving the power to revoke licenses to dealers, inn-keepers, hackmen, draymen, pawnbrokers, auctioneers, pilots, engineers and the like, to the same bodies, boards or officers, who are authorized to issue them, such as city councils, county commissioners, selectmen, boards of health, boards of exercise, etc. The constitutionality of such laws, as a valid exercise of the police power, has often been sustained, and indeed rarely questioned. Cooley Const. Lim. 343 and 344 and cases cited,

The only authorities cited by relator to support his contention are cases in which it has been held that the removal of an attorney by a court from his office as an attorney of the court, *like the order of his admission*, is the exercise of judicial power, and is a judgment of the court. But these cases are not all analogous to the one at law. They rest expressly upon the ground that attorneys are *officers of the court*, whose duties relate almost exclusively to proceedings of a judicial nature, and that at common law it rested exclusively with a court to determine who is qualified to become one of its officers and for what cause he ought to be removed; and hence that attorneys could only be removed from office for misconduct ascertained and declared by judgment of the court. *Ex parte* Secombe, 19 How. 9, *Ex parte* Garland, 4 Wallace, 333.

Whether the proceedings instituted by this Board to determine whether this license should be revoked are even *quasi* judicial so that a writ of prohibition would lie, is a question that may admit of serious doubt.

But as the point is not raised by respondents and the writ must in any event be quashed on other grounds, we have not considered it.

Writ quashed. MITCHELL, J.

SUPREME COURT, OCTOBER TERM, 1885

The State of Minnesota ex rel. *E. C. Feller*,
Relator.
vs.
The State Board of Medical Examiners of the State of Minnesota, Respondent.

SYLLABUS.—For a physician to publish an advertisement containing false statements as to his ability to cure disease, knowing them to be false when he makes them, and intending thereby to impose upon and deceive the public, is "unprofessional and dishonorable conduct," within the meaning of section 9, chapter 125, Gen. Laws, 1883.

OPINION.—This, like the case of *The State ex rel. Edward D. Chapman*, is an application for a writ of prohibition to restrain the State Board of Medical Examiners from further action in proceedings instituted to revoke, on the ground of alleged unprofessional and dishonorable conduct, a certificate issued to relator entitling him to practice medicine. (Gen. Laws 1883, chap. 125, sec. 9.) But unlike that case, the only ground upon which the writ is asked for is, that the facts stated in the information or complaint do not constitute "unprofessional" or "dishonorable" conduct within the meaning of the statutes.

The respondent makes the point that, if true, this is no ground for issuing the writ,—at least not until relator had first pleaded to the jurisdiction of the Board, and his plea had been denied. It is unnecessary to decide this point, inasmuch as we are of the opinion that the complaint or information is entirely sufficient.

The argument of counsel for relator proceeds upon the assumption that all that is charged is a breach of a rule of professional ethics, by simply publishing an advertisement of relator's business as a physician. But this is a mistake.

The complaint sets out in full the advertisement, in which relator, among other things, asserts to the public his ability to speedily cure all chronic, nervous, blood and skin diseases of both sexes, also *all* diseases of the eye and ear, without injurious drugs or hindrance from business; *all* old, lingering, constitutional diseases, where the blood is impure, causing ulcers. blotches, sore throat and mouth, pains in the head and bones, *cured for life*, etc.

The complaint further charges that relator published this advertisement for the purpose of soliciting and procuring, wrongfully and fraudulently, patients to submit themselves to medical treatment by him, and that the statements therein contained are false, and that relator *well knew* them to be false when he made them, and that it was intended thereby to deceive the public, and impose on the credulous and ignorant.

The gist of this charge is not that he advertised his business, nor merely that the statements contained in the advertisement were false, but also that relator *knew them to be false*, and made them *with intent to deceive and impose upon the public.*

If true, this is unprofessional and dishonorable conduct of the grossest kind.

The further point is made that the Board is assuming to exceed its jurisdiction because it cites relator to show cause, not only why his certificate should not be revoked, but also why he should not be *forever* debarred from practicing medicine in this State. There is nothing in this point.

If relator's certificate is revoked, the legal effect will be to forever debar him from the practice, unless the statute is repealed, or he obtains a new certificate.

As to whether a writ of prohibition would lie at all, in this case, see *State, ex rel. Chapman* v. *Same.*

Writ quashed.

MITCHELL, J.

DURING the December, 1885, quarter, the following additional cases formed the subject of correspondence and investigation:

Alexander.—W. R. Alexander, a graduate of the Medical Department of the University of the City of New York (1872), received a certificate on the 28th of December, and within a few days thereafter it was learned that he was flooding the city of Quincy with advertising circulars of the usual fraudulent character. These circulars stated that Dr. Alexander, "one of New York's most eminent specialists, has permanently located in Kansas City, Mo.," but they were enclosed in wrappers upon which was printed in large red letters an announcement that "Dr. Alexander has opened a permanent branch office in Quincy," and this distribution of circulars was supplemented by cards in the local papers headed "Important Notice," and setting forth that "Dr. Alexander, who has had such a large and successful practice in Kansas City," etc., offers the "advantage of his great skill and knowledge attained in the large hospitals of New York," etc., and that "his specialties are diseases of women, *all* chronic and private diseases and deformities," etc. His advertising methods may be inferred from the following extracts:

> We have familiarized ourselves with the teachings and methods of *all the schools of medicine*, but do not confine ourselves to any of them. We prescribe to cure, and use without prejudice whatever will cure or alleviate. We have made an honest and laborious study of *all the medical sciences* under the instruction of the most scientific in both the large hospitals and in private practice, and have graduated at two of the best schools in this country, as our two diplomas, we can and will show, will prove. We treat *all* Chronic Diseases and Deformities, such as Catarrh, Dyspepsia, Diseases of the Eye, the Ear, Nervous Diseases, Blood and Skin Diseases, Female Weakness, Ulcers or Fever Sores of long standing, Barrenness in Women. We have a special treatment for Itching, Gravel, Heart Disease, Blotches and Pimples, Leucorrhea or Whites, Spinal Curvatures and Club-foot, Enlarged Tonsils, Prostration and Impotence, Liver, Stomach and Bowel Diseases, Goitre, Erysipelas, Crooked Limbs and Enlarged Joints, Throat and Lung Diseases, Piles without pain or the use of the knife, Hernia or Rupture—we have the very best appliances; Fever and Ague, Chronic Dysentery—we have a special treatment. Syphilis, in *all its horrid forms, we never fail to cure.* Dropsy, *we guarantee a cure.* Tape Worm, we remove in a few hours. Consumption, we can positively reach if not too far advanced. Constipation, so opposed to comfort and good health, *we relieve promptly*. Fistula in Ano, we positively cure without pain or the use of the knife. *All* Diseases of the Kidney or Bladder, Hip Joint Disease, Incontinence of Urine, and all diseases that can be reached by a scientific course of treatment.

Then follows special details "To all Suffering from the Errors of Youth, Impotence and Sterility"—mingled with an appeal to "Women" to "seek relief at our hands" from "the long lists of diseases peculiar to you alone," and advice to "Ladies" to "get a bottle of our *Beautifier*, which never fails to improve and beautify the complexion of the most homely, removing moles, freckles, pimples, black-heads, fire-spots, flesh-worms, dandruff, redness of the nose, scald-head, and all disfigurements of the skin, rendering it clear, rosy, and permanently beautified," etc., etc. The usual array of coarse woodcuts is given, and such statements as the following, from the "Centropolis" and "King's Life":

> He evidently stands at the head of his profession in the medical and surgical world.
>
> Our attention was called last week to one of the most fearful looking sores we ever beheld on any one who could live and have any comfort whatever. We were permitted to see the case through the courtesy of the New York Specialist, who has the case in charge, and who declares he will succeed in healing it perfectly, though to us such a thing, we must confess, seems an impossibility.
>
> Dr. Alexander has no superior and but few equals in the cure of diseases of women. It would take a large volume to give his many certificates received from this class of patients.
>
> Indolent ulcers (or fever sores, as they are called) are loathsome and painful affections. They are so often pronounced incurable. Dr. Alexander *never fails* to cure them.
>
> *All* forms of catarrh also successfully treated.
>
> And the afflicted are cordially invited to call and have a friendly talk, which will cost them nothing.
>
> The poor will find in the doctor a great friend, as their suffering and financial inability *to seek a higher grade of medical aid* always excites in him a feeling of humanity and sympathy for them, and nothing affords him more pleasure than to examine and prescribe for them free of charge, *except for the mere medicine furnished.* To all such he would say a separate day will be given for their exclusive reception, which will be duly announced through the papers of the city. They will be required, however, to furnish evidence and references of their financial inability to pay.

Alexander was cited to appear before the Board at the January, 1886, meeting, to show cause why his certificate should not be revoked on the ground of "unprofessional and dishonorable conduct," in falsely and fraudulently advertising impossible claims and pretentions, calculated and intended to deceive the sick and afflicted, for the purpose of pecuniary gain; and in having obtained said certificate mainly upon the recommendation of one T. J. P. O'Brien, purporting to be the professor of physiology and pathology in the Kansas City Medical College, it having been since ascertained that said O'Brien has no connection with said college.

SCHMID.—On the 1st of May, 1884, a certificate was issued to one Alfred Schmid, then living at Dundee, Kane county. The application was made in the usual form, Schmid swearing that he was the lawful owner of a document purporting to be from the University of Tubingen, and which set forth that he had passed his examination as a physician of the first class, on the 8th of November, 1860. He also presented a certificate of attendance on the Homeopathic Clinic in Goeppingen, and a highly laudatory affidavit as to his moral character, professional studies in Germany, etc., and in which the affiant styled him a "thorough, practical and fully educated physician," and a "gentleman of honor."

Six weeks later, Schmid wrote that his certificate had been destroyed by fire, and requested a duplicate. In September 1885 a letter was received from Michigan City, Ind., announcing that Dr. Schmid was living in that place, claiming to have graduated in "Berlin," and had a certificate from this BOARD which led the writer to address the Secretary for information concerning him. From some other circumstances which had excited suspicion, the Secretary wrote to Prof. Von Vierordt of the University of Tubingen, and on the 8th of October received a reply from Prof. Nagel, Dean pro tem., of which the subjoined is a translation:

OFFICE OF THE DEAN OF THE MEDICAL FACULTY
OF THE UNIVERSITY OF TUBINGEN, OCT. 8, 1885.

I have the honor to reply to your letter of inquiry, dated Sept. 23, to Prof. Von Vierordt (who departed this life last year), that according to the minutes of proceedings, a Mr. Alfred Schmid has passed his medical examination at this place neither on the 8th day of November, 1860, nor on any other day of that year, nor in any subsequent year.

A copy of this letter was sent to Dr. Schmid, with a request for an explanation. The gentleman who had testified to Schmid's character, studies in Germany, professional ability, etc, was also communicated with, and he promptly furnished the following:

ELGIN, ILL., Dec. 7, 1885.

YOUR HONOR: In reply to your favor of the 4th inst., I beg to say that I have never heard, either in Germany or during my residence in America, that Alfred Schmid is a doctor. I knew him only by name. When he called on me here, he told me that he had heard homeopathic lectures at Tubingen, and that, in order to practice here, he would have to file testimonials at Springfield. I might testify over my signature that he was the identical man, which I did without having read the document; however, this was privately, not officially, not upon oath.

Asking you to receive these statements as truthful, I am, with highest regards,
Very truly yours,
JOS. BISCHOFF.

"Dr." Schmid replied by returning the duplicate certificate, issued to replace the original which he claims was burned up, and demanded the return of all papers pertaining to his case. He was advised that such papers formed a part of the records of the Secretary's office, and could not be returned except by action of the BOARD.

The Public Health:

Small-pox, noted in the October report, as having appeared in Chicago, besides an additional group of cases in Peoria—the result of a case being diagnosed as chicken-pox—appeared at Litchfield, Montgomery county, reported Nov. 5; Galva, Henry county, reported Dec. 27; and Aurora, Kane county, reported Dec. 31. There were two cases in Litchfield, contracted from Peoria; one case in Galva, source of contagion not ascertained but believed to be from the same place; and one case in Aurora, "imported from the West." There has been no spread of the disease up to the close of the year from any of these cases, and no further danger is apprehended from them. In Chicago there were 12 cases during the December quarter; one group of seven—contracted, it is believed, from a Canadian tramp—was concealed by an unqualified practitioner, and occasioned much alarm. Four of the seven are already dead, and the medical attendant is in the county jail awaiting trial for practicing without a license.

The advantage of humanized virus over bovine in promptness and certainty of action was strikingly manifested at Galva. Late at night on the 27th of December, the Secretary received a telegram from Dr. W. A. Grove, and on the 28th, learning that 50 persons had been exposed, started for the town, stopping en route at Peoria. At Galva, on the 29th, it was ascertained that a party had been given on Christmas day at a house some two miles from the village; in the house a man lay sick in a room freely communicating with the rest of the building, and during the party several of the guests visited the sick man and the other members of the family mingled indiscriminately with the visitors and the sick person—some fifty people in all being in the house several hours during the day. The following day it was suspected that the eruption previously noticed was that of small-pox, and on the 27th this diagnosis was confirmed. When the case was seen on the 29th the patient was then in the fifth day of the eruptive stage. Vaccination of those exposed, so far as they could be reached, was begun on the 28th with bovine virus, but in view of the urgency of the situation, a supply of humanized virus was at once telegraphed for, and at a meeting of the township officers and village trustees, instructions were given to immediately vaccinate with humanized virus every one who had been exposed, and to exercise a quarantine of observation of these people during the period of incubation. Dr. Grove's report of the results of the vaccination with both kinds of virus is as follows:

"In *all* cases the humanized virus has developed the vaccine vesicle earlier than the bovine virus. In many cases the bovine virus and humanized virus both 'took' in the same subject. I vaccinated several families with the bovine virus on Dec. 28, and revaccinated them with the humanized virus on Dec. 31. In those cases where they both 'took,' it appeared to be about an even race. In a *few* cases the bovine virus would show up well for a few days and then abort, leaving the humanized pock to progress through the several stages of development in a satisfactory and typical manner. But in most cases the bovine virus took hold more vigorously and developed a much broader areola. In all, I have observed three *marked* cases of post-vaccinal eruption. This eruption—papular in character—would last about three days and then disappear. All three cases were vaccinated with bovine virus. I have never seen this phenomenon follow a vaccination wlth humanized virus. Previous to this campaign I was extremely partial to the bovine, but I have completely changed my mind. I will use points sent from your office and report results. In compliance with your request, I send clinical history of Kewish case. No other cases have been reported.

Very respectfully, W. A. Grove.

In another letter Dr. Grove says: "At least 50% of the vaccinations with bovine virus were failures."

This experience adds to the mass of proof long recognized of the superiority of humanized virus, not too far removed, over bovine in cases demanding promptness and certainty of action. It is thought well to repeat in this connection the Secretary's remarks on this subject in his paper on "The Relations of Small-Pox and Vaccination" in the Fifth Annual Report of the Board (p. 502). Treating of the "promptness of action" in the face of exposure it is there shown that "humanized virus" may be depended on much more certainly than bovine to act promptly. Usually on the second or third, very seldom so late as the fourth, day after the insertion of good humanized virus, the papular stage of vaccination will begin, and be followed, with almost unvarying regularity, by complete development of the vesicle on the eighth day, and by the subsequent appearance of the "index of safety"—the specific inflammation of the skin, or stage of areola. Bovine virus, on the contrary, is subject to all degrees of delay, even to periods of weeks. During the recent epidemic this defect of bovine virus was more than once followed by serious consequences. Not alone were lives lost among the exposed members of isolated families, where vaccination was resorted to early enough to have averted an attack had the virus acted promptly, but epidemic outbreaks followed under similar circumstances—that is, in localities where, upon the discovery of the first case, vaccination of all unprotected or exposed was at once resorted to, with bovine virus, but which either proved so tardy in its action, or so totally inert, as to allow the disease to gain a foothold. See Details of Local Outbreaks, *passim*, for such instances.

"'The loss of a day,' says Seaton in his Hand-book of Vaccination, 'may be the loss of a life.' Hence the necessity for using virus which will act promptly, and not remain latent three, five or any other number of days. Recent experience corroborates observations made during the period from 1866 to 1873, while Sanitary Superintendent of the city of Chicago, to-wit: That it is never too late to vaccinate after exposure, short of the actual appearance of the variolous eruption. If the vaccination be performed within three or four day after exposure, and the areolar stage, the index of safety, be reached in the normal time, an attack of small-pox will almost invariably be averted. With every additional day's delay the protective power will be weakened; but, contrary to the opinion laid down in the text books, experience proves that this protective power is not entirely exhausted until the vaccination is deferred at least up to the beginning of the febrile stage of small-pox.

"Of 323 cases of small-pox, tabulated in the preceding pages, in which the patients had never been vaccinated until after exposure, 305 recovered and 18 died, being a less mortality rate than among the 690 cases, which occurred among those who had been vaccinated before exposure only. In some of these cases vaccination was not attempted until shortly before the beginning of the eruptive stage. A reference to the Notes appended to the Tabular Statement of 1,100 cases, pages 296-327 inclusive, will show many instances where vaccination after exposure was successfully resorted to after the expiration of the period ascribed by Marson, Seaton and others, as the limit beyond which, "whatever the local success of the vaccination, no constitutional effects will be imparted.' In these Notes will also be found the details of cases where the attempt to vaccinate with bovine virus was only successful after one or more repetitions, with loss of valuable time, or where such attempt finally proved wholly unsuccessful. With the exception of one group of six cases—a family vaccinated by the father, a layman—all the vaccinations performed with humanized virus, after exposure, were successful, and the patients recovered after mild attacks of short duration. But of such vaccinations with bovine virus, over forty per cent were failures—that is, in the sense of manifesting activity before the variolous disease began—and of this forty per cent. of failures there was thirty per cent. of fatal results."

The general tenor of these views is also supported by the figures given in the American Journal of the Medical Sciences,* quoting from the Arbeiten aus dem Kaiserlichen Gesundheitsamte: "The increase of unsuccessful vaccinations in the German empire was due to the vaccinations in the Grand Duchy of Hesse, where, owing to the introductoin of animal lymph, the number of successful vaccinations decreased from 97.31 per cent. in 1881, to 63.44 per cent. in 1882." And the German Commission on Vaccination report—"*For* vaccination with humanized lymph may be mentioned the certainty of its action, the simplicity of its machinery, the inexpensive manipulation of the lymph. *Against* the use of animal lymph may be taken the less certainty of its results, a more complicated machinery, and the greater cost of production of lymph." Nevertheless, the Commission conclude that animal "is capable of supplying the place of humanized lymph." Commenting upon this, Dr. Buchanan, the medical officer of the Local Government Board, in his last report (1884) says: "In England, these are identical when the operation is done directly from arm to arm; or calf to arm; thus, two operators at the Animal Vaccine Establishment, in London, produced an average of 988 vesicles for every thousand insertions of calf lymph made on infants. Now the employment of stored lymph reduces this average by some 20 or 30 per cent., whether humanized or animal lymph be used. Direct vaccination from calf to arm is only possible in large centres of population. In sparsely inhabited districts the use of stored lymph becomes a practical necessity, unless arm-to-arm vaccination be resorted to; hence, there is much probability that the decision of the German Commission will tend to reduce the condition of the German people as to protection against small-pox, to the condition of the inhabitants of the Grand Duchy of Hesse."

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*For January, 1886.

There is no reason—but the contrary—for modifying the judgment expressed in the eleventh of the propositions concluding the paper above referred to:*

"XI. That the relative advantages of bovine and of humanized virus are still *sub judice* as to the most important point, namely their comparative protective powers. Humanized virus has been tested for more than eighty years; bovine for about sixteen. The former descended in an unbroken line of vaccinations from the original operations of Jenner, still produces the same typical results, the same regular sequence of phenomena, as those obtained by Jenner himself; the latter produces almost as many varying results as there are propagators. * * * In cases of emergency, where promptness of action is important, the preference must be given to the humanized."

Following the Secretary's visit to Montreal in the early part of October, as authorized by the BOARD in connection with the small-pox epidemic—and the general results of which were submitted in the October report—the BOARD has been kept very fully advised of the conditions by the officers of the Provincial Board of Health, Ontario, the Central Board of Health, Quebec, the Secretary of the Maine State Board of Health, and from other sources. November 2, the Supervising Surgeon-General of the Marine Hospital Service forwarded a copy of a communication from Dr. Bryce, Secretary of the Provincial Board, the purport of which is given in the subjoined copy of the Secretary's reply:

ILLINOIS STATE BOARD OF HEALTH.
OFFICE OF THE SECRETARY, SPRINGFIELD, ILL., NOV. 7, 1885.

SIR:—I am in receipt of yours of the 2d instant, inclosing for my information and such action as I may deem proper, a copy of a letter from the Secretary of the Provincial Board of Health of Ontario, Canada, in regard to the Canadian epidemic of small-pox.

I have to thank you for the information, but it is not apparent that any action on my part is necessary in regard to the Canadian epidemic. From personal observation of all the conditions—having spent several days in the infected region and compromised territory at the invitation of the Dominion authorities—I am prepared to say that everything possible under the circumstances is being done, both for the suppression of the disease in the infected area, and especially by the Provincial Board of Health of Ontario, for the prevention of its spread westward. The thorough inspection of this Board (Ontario) and the measures which it enforces for its own

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*THE RELATIONS OF SMALL-POX AND VACCINATION. *Fifth Annual Report Illinois State Board of Health*, p. 508.

safety, are the best safeguards for neighboring States; and in my judgment, not only render any other inspection for the protection of such States entirely unnecessary, but leave no justification for quarantine against that Province. On this latter point I fully concur with Dr. Bryce.

For your information, I will add that the Peoria (Ill.) outbreak, to which Dr. Bryce alludes, was caused by non-inspected, non-vaccinated passengers from Europe, suffering with small-pox on arrival and allowed to proceed to the interior without warning. It is alleged that the eruption was diagnosed to be that of chicken-pox on board the steamer, and the sufferers and their friends were thus lulled into a false security which resulted in the outbreak, which, however, is now under control.

I am, sir, very respectfully,
John H. Rauch, Secretary.

To the Supervising Surgeon-General U. S. Marine Hospital Sercice, Washington, D. C.

There were reported in the State towards the close of the year a few localized outbreaks of diphtheria and scarlet fever—both diseases at East St. Louis, St. Clair county, a mild form of the latter disease in Galesburg, Knox county, and some 15 or 20 cases of a severer type at and in the vicinity of Westfield, Clark county.

With the above exceptions, the same satisfactory condition of the public health, as obtained throughout the preceding nine months, continued during the December quarter.

Asiatic Cholera:

It is hardly necessary to say that this country is not yet [December 21, 1885] free from danger of an invasion of cholera simply because there is now a cessation of alarming reports from Europe. Periods of remission, more or less complete, have characterized every pandemic spread of cholera since it first invaded the latter country. Until it entirely disappears from the European continent it will not do for us to relax our vigilance or to remit a single precaution. On the contrary, this delay in its march should be utilized to strengthen our defenses, and to perfect our precautionary systems. It must be remembered that the duration of a cholera invasion of Europe is not limited to two are three years. From the date of its first appearance in 1829-30 in Russia, to its final extinguishment in Italy, Austria and Germany, a period of seven years elapsed, during which at one time or another, every one of the continental countries was invaded—some of them more than once. Similarly in 1847, it again entered Russia at two points, and before its final disappearance in the Levant in the winter of 1855-6, it had traversed every part of the continent and invaded Great Britain. In its last pandemic spread it appeared first at Malta in 1865, continued to ravage various parts of Europe until 1869, when there was a complete remission, only to break out again in 1871 and finally disappear in 1873.

With immigrants from every portion of Europe continuously landing upon our shores and rapidly distributed throughout the interior, we will not be freed from this menace until every trace of the contagion in that country has vanished. At the close of the year the disease still remained in southern Spain, in France at Brest, in Italy near Venice, whence it had spread to the Austrian port of Trieste, and it has also effected a landing on the Western hemisphere, in the French penal colony at Cayenne. Thus far the disease has not extended in Europe to the regions whence our heaviest foreign immigration is derived, and to this fact is probably largely due our present immunity. When the German and Scandinavian countries and the British Islands become infected, if they should, our serious danger will then begin.

The question is often asked: "Do you expect to keep cholera out?" To which the reply is, that it is the duty of every sanitary authority to try to do so; to strengthen the weak places and perfect the strong; to utilize every possible resource; to secure the best attainable condition of his own immediate territory, and to put himself in a position to receive help from or extend help to others in fighting and excluding a common foe. We may not be able to entirely shut it out, but it will be a great achievement if its invasion is postponed and its spread limited. If an outbreak at a port or locality can be deferred until toward cold weather, that ally would itself help us to extinguish it, and it might require a fresh importation the next season to start another. It is our duty to try to shut it out, and not to fold our hands supinely and join in the condemnation of quarantine and preventive methods, which, in a great measure, are a new outgrowth since the fever-summer of 1878,—which have received a great stimulus to development by the present dread of cholera, during the past two years, and which so far as they have been tested in small-pox and yellow fever, give promise of success with the Asiatic pestilence. With a sufficient number of National refuge stations, (there should be at least one on the Texas coast and one for New England, in addition to those in the Delaware Bay, in Hampton Roads and Sapelo Sound, and all of them should be as fully equipped as that at Ship Island,) with properly appointed quarantine establishments at the larger ports, and inspection stations at the smaller ones, the entire system to be mutually coöperative, and governed by the same general rules and regulations, there would be no reason to apprehend the introduction of cholera or any other foreign pestilence.

The absence, however, of any adequate National health authority and legislation, and the fact that in such absence, the maritime quarantines are controlled and administered by State and local authorities—resulting in diverse, and sometimes conflicting, regulations and requirements and of necessity, in a tendency to limit precautions to their own individual interests, commercial as well as sanitary—throw upon interior States the responsibility of fully informing themselves of the strength or weakness of these outposts in order to know where to anticipate danger and how to make their own preparations to meet it.

Inspection of Coast Quarantines:

At the July, 1885, meeting of the Illinois State Board of Health the Secretary was instructed by a resolution of the Board "to inspect the methods of quarantine of the Louisiana State Board of

Health, and their actual operation at the stations below New Orleans; and also to extend his inspection of quarantine methods and regulations to such other ports and places as he may deem necessary in the interests of the public health of the State, with especial reference to the exclusion of Asiatic cholera and small-pox."

Such inspection was designed to supplement the action of the Board—inaugurated on receipt of the first information that Asiatic cholera had again invaded Europe, threatening another pandemic extention—and which action aimed to secure the best attainable sanitary condition of the territory under its immediate jurisdiction, as one of the most important preparations against the spread of the disease within the State, should the contagion be introduced.

The geographical position of Illinois—within 24 to 48 hours of all the important ports on the Gulf and Atlantic coasts—its commercial relations, the extent and character of its means of communication, and the fact that fully one-half of the immigrants to this country come into or pass through the State, most of them remaining at least long enough to communicate contagion, and under conditions favorable to such communication, obviously make the administration of these quarantines—with especial reference at this time to the exclusion of Asiatic cholera—a matter of sufficient importance to warrant the Board in securing all accessible information concerning them, the better to enable it to discharge its duty in connection with the protection of the lives and health of the citizens of the State.

In the present epoch of quarantine Illinois has a direct interest—chiefly commercial—in the exclusion of yellow fever from the Mississippi Valley; in the exclusion of vaccinally-unprotected immigrants at the North Atlantic ports for the protection of her own territory from small-pox; and in the exclusion of Asiatic cholera generally, whether it threatens by direct importation from Europe or mediately through the West Indies, Mexico and South America. In brief, the State is concerned in the condition of the sanitary coast defenses from the mouth of the St. Lawrence to the mouth of the Rio Grande.

The inspection of these, in accordance with the resolution of the Board, has been completed, and the report thereon will be submitted as a separate communication.

State Sanitation:

The advent of cold weather put an end, for the time being, to the State Sanitary Survey and the work of sanitation, which had been pushed so vigorously throughout the State during the greater part of the year. Returns, tabular statements, sanitary schedules and other data pertaining to this work, have been received from nearly 400 cities and towns—exclusive of Chicago. Added to those previously reported, the inspections made during the December quarter foot up a total of nearly 135,000 houses and premises inspected and improved—as to sanitary condition—during the year, and in the State at large, including Chicago, a total of over 198,000. The additions since the last summary are mainly of the larger towns, and the summary at the end of the year shows that about 74 per cent. of the places in the State having populations of 3,000 or more have carried out the house-to-house inspection; about 55 per cent. of those having populations between 2,000 and 3,000; and nearly 40 per cent. of those having populations between 1,000 and 2,000—the proportion of the larger towns, those most needing sanitary work, being the greatest. Details of this work will be found in the Appendix to this Report.

Trichiniasis and Hydrophobia:

Cases of trichiniasis at Streator, LaSalle county, and Wilmette, Cook county, have been reported by correspondents of the Board. In both instances they followed the eating of raw or underdone pork. Three deaths out of five persons who ate raw sausage at Streator have already occurred, and the recovery of one of the two remaining is doubtful. The diagnosis was abundantly confirmed in both sets of cases. Accompanying the report from Dr. J. M. Hess, county physician of LaSalle county, is a photograph of one of the trichinæ found in a piece of the biceps muscle of one of the victims after death.

These three make a total of 39 deaths recorded from this disease in Illinois since attention was first attracted to it in 1858. It is not probable that the disease is increasing in frequency, notwithstanding the increasing number of cases reported every successive season. The explanation is to be found rather in the increased attention paid to the subject, and the greater familiarity with the symptoms which leads to a more accurate diagnosis. Cases presenting the symptoms which now lead to a suspicion of trichiniasis were formerly apt to be regarded and treated as typhoid fever, rheumatism, etc.

Nevertheless, it would be well if the newspaper press, which gives such prominence to reports of these cases, would always add to their reports a word of caution as to the necessity for the thorough cooking of pork under all circumstances, and also give prominence to the fact that the cases are invariably the result of eating raw or imperfectly cooked pork in some form, usually as sausage. The effect would be to prevent the foundation for these reports which, as is well known, are made a pretext for the exclusion of American pork from foreign markets.

What seemed for a time like a successful attempt to inaugurate in Illinois the hydrophobia craze so prevalent elsewhere, occurred near Cairo toward the close of the quarter. As a good illustration of the manner in which a case of hydrophobia may be manufactured, this is worth being put upon record. A man named Bundschuh, living near Unity, Alexander county, was bitten by a dog something over a year ago. There was no evidence that the dog was mad, or was supposed to be mad, his killing on the spot being in the nature of vengeance. The wound was a severe one, and only healed after a long interval. The man is said to have expressed to his neighbors a fear of hydrophobia, as a result. This fear was probably revived and heightened by the present sensation on the subject. The correspondent of the Board, who was requested to investigate the case, tells the rest of the story in the following pithy manner:

"The following history I have from Mr. Wm. Painter, of Mound City, who is a brother-in-law of Bundschuh, and who was with him during the latter part of his illness. Painter says Bundschuh had felt badly for several days, was finally attacked with congestive fever, became delirious, and the attending physician diagnosed hydrophobia. Bundschuh was held down, compelled to inhale chloroform, and treated as a madman. After Painter arrived with Dr. Royal, of Villa Ridge, the patient was released, chloroform stopped, and treament for fever instituted. He soon became convalescent, and is now nearly well."

Chicago Water-Supply:

The systematic observation of the varying character of the water-supply of Chicago, which was begun September 5th, has been further extended by noting the changes in the lake level and the action of the pumps at Bridgeport, in addition to the chemical determinations and meteorological conditions. These additional data have been obtained from July 17th, and on the 5th of December the water-supplies of Lake View and Hyde Park, and on the 26th of December that of Evanston, were included in the chemical determinations. The following tables have been collated from the data and information furnished by the Superintendent of the canal, Mr. James M. Leighton, by the chemist of the Board, Prof. Long, and by Signal Officer Allen Buell, of the Chicago station.

I.—TABLE *showing Effect of Bridgeport Pumps on the Levels of Water in the Canal and South Branch; Daily Meteorological Conditions; Weekly Chemical Determinations of the Water-Supply of Chicago, Hyde Park, Lake View and Evanston.*

PLACE.	DATE.	EFFECT OF BRIDGEPORT PUMPS.						METEOROLOGICAL CONDITIONS.				CHEMICAL DETERMINATIONS.			Physical condition of water..
		Av. level of water in Canal Lock.		Av. level of water in Chicago River		Difference.........		Mean temperature......	Rainfall—inches	Direction of wind........	Total wind movement—miles....................	Free ammonia, in 1,000,000 parts..........	Alb. ammonia, in 1,000,000 parts..........	Oxygen used by 1,000,000 parts....................	
		Feet.	Inch.	Feet.	Inch.	Feet.	Inch.								
Chicago..........................	Sept. 1	10	2	10	2	....	....	57.1	....	....	....	....	....	....	....
..	.. 2	9	8	9	8	....	....	61.2	....	....	....	....	....	....	....
..	.. 3	9	11	9	11	....	....	60.6	....	....	....	....	....	....	....
..	.. 4	10	2	10	....	....	2	58.1	.09	....	....	....	....	....	....
..	.. 5	11	....	10	....	1	....	56.5	.01	N.	164	.0090	.070	.40	Clear ....
..	.. 6	11	2	10	....	1	2	55.2	....	S.	91	....	....	....	..
..	.. 7	11	4	9	10	1	6	60.3	.01	E.	147	....	....	....	..
..	.. 8	11	8	10	3	1	5	64.5	1.65	SW.	354	....	....	....	..
..	.. 9	11	8	10	6	1	2	57.7	.25	SW.	283	....	....	....	..
..	.. 10	10	6	10	6	....	....	56.1	....	N.	178	....	....	....	..
..	.. 11	10	1	10	1	....	....	64.1	....	E.	169	....	....	....	Turbid..........
..	.. 12	10	....	10	....	....	....	70.7	.01	S.	276	.0220	.100	.80	..
..	.. 13	10	1	10	1	....	....	68.5	.31	SW.	188	....	....	....	..
..	.. 14	10	3	10	3	....	....	67.4	....	W.	270	....	....	....	..
..	.. 15	10	4	10	4	....	....	64.8	....	W.	231	....	....	....	..
..	.. 16	10	6	10	6	....	....	60.8	....	N.	198	....	....	....	..
..	.. 17	10	4	10	4	....	....	67.9	....	SW.	200	....	....	....	Clear ....
..	.. 18	10	3	10	3	....	....	67.5	....	NE.	110	....	....	....	..
..	.. 19	10	2	10	2	....	....	71.0	.62	E.	145	.0000	.080	.64	..
..	.. 20	10	1	10	1	....	....	71.0	....	E.	137	....	....	....	..
..	.. 21	9	11	9	11	....	....	72.9	....	SW.	188	....	....	....	..
..	.. 22	10	5	10	5	....	....	63.7	....	N.	348	....	....	....	..
..	.. 23	9	11	9	11	....	....	54.5	....	SW.	213	....	....	....	..
..	.. 24	10	4	9	8	....	8	62.6	....	SW.	204	....	....	....	..
..	.. 25	11	3	9	10	1	5	68.7	....	SW.	247	....	....	....	..
..	.. 26	11	7	9	9	1	10	69.8	....	E.	158	.0110	.092	1.68	Slightly turbid
..	.. 27	11	6	9	11	1	7	67.6	....	NE.	110	....	....	....	.. ..

Table I.—Continued.

PLACE.	DATE.	EFFECT OF BRIDGEPORT PUMPS.						METEOROLOGICAL CONDITIONS.				CHEMICAL DETERMINATIONS.			Physical condition of water..
		Av. level of water in Canal Lock..		Av. level of water in Chicago River		Difference		Mean temperature......	Rainfall—inches	Direction of wind.......	Total wind movement—miles	Free ammonia, in 1,000,000 parts	Alb. ammonia, in 1,000,000 parts..........	Oxygen used by 1,000,000 parts	
		Feet.	Inch	Feet.	Inch	Feet.	Inch								
Chicago................	Sept. 28	11	6	10	1	1	5	68.0	....	N.	130	....	....	....	Slightly turbid.
"	" 29	11	6	10	2	1	4	66.6	....	N.	98	....	....	....	" "
"	" 30	11	6	10	2	1	4	65.0	.02	N.	182	....	....	....	" "
Mean........................	....	10	7	10	1	......	6	63 9	....	....	....				
Totals........................	....	......	......	......	......	......	......	....	2.88	....	*5,726				

*Including 707 miles for first four days of September not detailed.

PLACE.	DATE.	Canal Lock Feet.	Canal Lock Inch	Chicago River Feet.	Chicago River Inch	Difference Feet.	Difference Inch	Mean temperature	Rainfall—inches	Direction of wind	Total wind movement—miles	Free ammonia	Alb. ammonia	Oxygen used	Physical condition of water
Chicago......................	Oct. 1	11	6	10	5	1	1	62.6	....	N.	236	....	....	....	Slightly turbid.
"	" 2	11	8	10	2	1	6	65 8	.15	S.	130	....	....	....	" "
"	" 3	12	3	10	1	2	2	50.5	.13	NW.	245	.0039	.090	.96	" "
"	" 4	12	4	10	.....	2	4	44 3	....	NW.	196	....	....	....	" "
"	" 5	12	......	9	11	2	1	45 2	.16	NW.	159	....	....	....	" "
"	" 6	11	5	9	8	1	9	45.5	....	W.	128	....	....	....	" "
"	" 7	11	8	9	10	1	10	46 5	.21	SE.	167	....	....	....	" "
"	" 8	11	6	10	1	1	5	46.0	....	NW.	177	....	....	....	" "
"	" 9	11	5	9	8	1	9	51.9	....	S.	140	....	....	....	" "
"	" 10	11	5	9	7	1	10	58.0	....	S.	162	.0032	.072	24	" "
"	" 11	11	6	10	.....	1	6	58.8	....	SE.	129	....	....	....	Clear. ....
"	" 12	11	6	10	1	1	5	59.6	....	E.	181	....	....	....	" ....
"	" 13	11	6	10	3	1	3	54 9	.62	NE.	265	....	....	....	" ....
"	" 14	11	8	10	3	1	5	51.9	.01	W.	186	....	....	....	" ....
"	" 15	11	5	9	8	1	9	53.9	....	SW.	207	....	....	....	" ....
"	" 16	11	6	9	10	1	8	57.4	....	S.	120	....	....	....	" ....

Chicago	Oct.	17	11	9	9	8	2	1	55.8		SW.	178	.0036	.084	.32	Clear
"	"	18	12	10	9	9	3	1	51.8	.01	NE.	151				Turbid
"	"	19	12	10	10	7	2	3	47.1	2.22	NE.	330				"
"	"	20	12	10	10	3	2	7	40.8	01	SW.	284				"
"	"	21	12	3	9	7	2	8	43.4		SW.	238				"
"	"	22	12	4	9	9	2	7	48.2		SW.	217				"
"	"	23	12		9	11	2	1	47.3		N.	162				"
"	"	24	11	9	9	8	2	1	52.5		S.	134	.0052	.070	.64	"
"	"	25	11	9	9	8	2	1	55.8		S.	149				"
"	"	26	11	8	9	9	1	11	55.7		SW.	190				"
"	"	27	11	9	10	1	1	8	49.8	(.—)	N.	242				"
"	"	28	11	10	10	2	1	8	51 0	(.—)	N.	219				"
"	"	29	11	9	10	3	1	6	40.0	(.—)	N.	433				"
"	"	30	11	8	10	3	1	5	40.4	.01	N.	216				"
"	"	31	11	6	9	9	1	9	44.1	.34	SE.	169	.0060	.076	1.60	"
Mean			11	9	9	11	1	10	51.0							
Totals										3.87		6,141				

(.—) Inappreciable.

Chicago	Nov.	1	11	7	9	10	1	9	38.9	.30	NW. W.	213				Turbid
"	"	2	11	5	9	6	1	11	38 6	.01	NW. W.	235				"
"	"	3	11	5	9	5	2		41.0		W. S. SE.	161				"
"	"	4	11	6	9	6	2		48.1	.20	SE. SW. NW.	189				"
"	"	5	11	8	9	11	1	9	46.4	.92	NE. N.	241				"
"	"	6	12	5	10	3	2	2	57.6	.33	NE. E. SE.*	214				"
"	"	7	11	11	9	10	2	1	47.7	.02	SW.	321	.0056	.081	1.68	"
"	"	8	9	6	9	6			41.8		SW. W. W.	203				"
"	"	9	9	7	9	7			38.9		W. W. W.	153				"
"	"	10	9	5	9	5			45.2		W. SE. SE.	151				"
"	"	11	9	5	9	5			57.0		S. S. S.	268				"
"	"	12	9	6	9	6			49.6	(.—)	SW. SW. W.	310				"
"	"	13	8	7	8	7			31.4	.01	W. W. W.	349				"
"	"	14	9	2	9	2			31 0		W. W. W.	289	.0014	.078	1.44	"
"	"	15	9	7	9	7			32.9		W. W. SW.	152				"
"	"	16	9	4	9	4			40.8		SW. S. SE.	152				"
"	"	17	9	6	9	6			50.9	.02	S. SE. SW.	208				"
"	"	18	9	8	9	8			50.0	.05	SW. NW. NW.	209				Very turbid
"	"	19	9	7	9	7			41.3	.11	N. N. S.	163				" "
"	"	20	9	4	9	4			40 8		SW. SW. W.	134				" "
"	"	21	9	7	9	7			39.0		NW. NE. NE.	223	.0050	.070	3.01	" "
"	"	22	9	10	9	10			35.9		NE. NE. NE.	347				" "
"	"	23	9	10	9	10			38 9	.30	N. N. NW.	271				" "
"	"	24	9	10	9	10			37.5	.06	N. NW. NW.	185				" "
"	"	25	10		10				36.6		NW. N. NW.	206				" "
"	"	26	9	8	9	8			36.0		W. NW. NW.	152				" "
"	"	27	9	8	9	8			37.8		NW. SE. SE.	91				" "

Table I—Continued.

PLACE.	DATE.	EFFECT OF BRIDGEPORT PUMPS.						METEOROLOGICAL CONDITIONS.				CHEMICAL DETERMINATIONS.			Physical condition of water..
		Av. level of water in Canal Lock...		Av. level of water in Chicago River		Difference.........		Mean temperature......	Rainfall—inches....	Direction of wind......	Total wind movement—miles	Free ammonia in 1,000,000 parts...............	Alb. ammonia, in 1,000,000 parts...............	Oxygen used by 1,000,000 parts.......	
		Feet.	Inch	Feet.	Inch	Feet.	Inch								
Chicago............	Nov. 28	10	......	9	8	......	4	40.9	....	S.SW.SW.	152	.0038	.066	2.74	Very turbid....
"	" 29	11	......	9	2	1	10	41.1	....	SW.	150	....	....	....	" " ....
"	" 30	11	2	9	2	2	......	40.3	(.—)	SW.	93	....	....	....	" " ....
Mean......................	....	10	2	9	7	......	7	41.9	....	....	....				
Totals......................	....	......	......	......	......	......	......	....	2 33	....	6,185				

(.—) Inappreciable. *Observations taken at 7 A. M., 3 P. M. and 11 P. M., 75″ meridian time.

Chicago......................	Dec. 1	11	2	9	8	1	6	42.6	.05	NE.	150	....	....	....	Very turbid....
"	" 2	11	2	8	9	2	5	38.7	....	SW.	210	....	....	....	" " ....
"	" 3	11	......	9	......	2	......	37.3	....	W.	256	....	....	....	" " ....
"	" 4	11	......	9	......	2	......	34.6	.01	SW.	267	....	....	....	" " ....
"	" 5	11	4	8	10	2	6	18.2	01	NW.	360	.0030	.082	2.48	" " ....
Lake View........	" 5	......	......	......	......	......	......	....	*	*	*	.0024	.080	1.60	Muddy...... ...
Hyde Park..............	" 5	......	......	......	......	......	......	....	*	*	*	.0020	.080	1.44	Slightly turbid.
Chicago......................	" 6	11	3	8	10	2	5	11.1	.03	NW.	335	....	....	....	Very turbid....
"	" 7	11	1	9	1	2	......	9.5	.... ..	SW.	143	....	....	....	" " ....
"	" 8	11	4	8	11	2	5	33.5	1.21	SE.	253	....	....	....	" " ....
"	" 9	11	6	9	6	2	......	31.2	.57	N.	310	....	....	....	" " ....
"	" 10	11	6	9	5	2	1	17.0	.03	SW.	258	....	....	....	" " ....
"	" 11	11	8	9	4	2	4	13.9	....	SW.	232	....	....	....	" " ....
"	" 12	12	......	8	10	3	2	25.5	.24	SE.	160	.0052	.088	2.40	" " ....
Lake View.................	" 12	......	......	......	......	......	......	....	*	*	*	.0078	,144	‖	Muddy..........

Hyde Park	Dec.	12								*	*	*	.0056	.090	2 56	Very turbid
Chicago	"	13	12		8	10	3	2	29.0	.61	N.	125				" "
"	"	14	12	2	8	6	3	8	14.5	† 03	NW.	203				" "
"	"	15	11	11	8	6	3	5	22.2	†(.—)	SW.	291				" "
"	"	16	11	10	8	6	3	4	12.2		SE.	129				" "
"	"	17	12		9		3		33.1	(.—)	S.	124				" "
"	"	18	12		9	4	2	8	33 8		SW.	282				" "
"	"	19	12		9	4	2	8	27 0		W.	217	.0048	.086	1.76	" "
Lake View	"	19									*	*	.0058	.110	‖	Muddy
Hyde Park	"	19									*	*	.0040	.090	1.81	Very turbid
Chicago	"	20	11	10	9	6	2	4	31.3		SW.	188				" "
"	"	21	12	1	9	6	2	7	39 9		SW.	295				" "
"	"	22	12	4	9	6	2	10	45.4		S.	255				" "
"	"	23	12		9	8	2	4	43.7	.09	W.	284				" "
"	"	24	12		9	6	2	6	37 2	†.01	N.	131				" "
"	"	25	12		9	8	2	4	33.3	†.02	NW.	205				" "
"	"	26	12		9		3		32.8		SE.	145	.0060	.096	2.08	" "
Lake View	"	26									*	*	.0056	.088	1.92	" "
Hyde Park	"	26									*	*	.0084	.090	1.60	Turbid
Evanston	"	26									*	*	.0051	.076	.96	"
Chicago	"	27	11	9	8	10	2	11	34.9		S.	206				"
"	"	28	11	8	9	2	2	6	30.2		SW.	106				"
"	"	29	11	7	9	2	2	5	44 2	.15	SE.	117				"
"	"	30	11	9	9	6	2	3	42 4	.13	S.	251				"
"	"	31	12		9	6	2	6	36.5		SW.	212				"
Mean			11	9	9	2	2	7	31.2							
Total										3.35		6,700				

† Melted Snow. (.—) Inappreciable. ‖ Water too dirty to make test. * It is assumed that the rainfall was the same over this area.

II.—*Table showing Effect of Pumps on Water Levels in Canal and River. Days of Effective Action and of Non-Effect, Grouped separately.*

1885. Date.	PUMPS IN EFFECTIVE OPERATION.								PUMPS IDLE OR SHOWING NO EFFECT.							
	Water in Canal.		Water in River.		Differ-ence.		Rainfall	Daily mean tem-perature	Water in Canal.		Water in River.		Differ-ence.		Rainfall	Daily mean tem-perature ....
	Feet ...	Inches.	Feet ...	Inches.	Feet ...	Inches.			Feet ...	Inches.	Feet ...	Inches.	Feet ...	Inches.		
July 17......	11	6	9	7	1	11	......	66.9	....	....	....	....	....	....	......	......
‘‘ 18......	11	4	9	10	1	6	......	95 7	.. .	...	....	....	....	..	......	......
‘‘ 19......	11	2	9	10	1	4	......	74.3	....	...	....	....	...	....	......	......
‘‘ 20......	11	2	9	10	1	4	......	84.7	....	....	....	...	....	....	......	.. ...
‘‘ 21......	11	2	9	10	1	4	.04	74.3	....	....	....	....	....	....	.... .	......
‘‘ 22......	11	....	9	6	1	6	(.—)	73 8	....	....	....	....	....	....	......	......
‘‘ 23......	11	....	9	8	1	4	.39	76.6	....	....	....	....	....	....	......	......
‘‘ 24......	11	2	9	7	1	7	......	78.5	....	....	....	....	....	....	......	......
‘‘ 25......	11	3	9	10	1	5	.05	71 8	...	....	....	....	....	....	......	......
‘‘ 26......	11	3	10	2	1	1	......	71.7	....	....	....	....	....	....	......	....
‘‘ 27......	11	1	9	7	1	7	......	73 7	....	....	....	...	....	....	......	......
‘‘ 28......	11	4	9	7	1	9	.01	79.1	....	....	....	....	....	....	......	......
‘‘ 29......	11	1	9	10	1	3	.54	78.8	....	..	....	....	....	....	......	......
‘‘ 30......	11	4	9	10	1	6	.01	77 4	....	....	....	....	....	....	......	......
‘‘ 31......	11	3	10	....	1	3	......	76.3	....	....	....	....	....	....	......	......
Mean	11	2	9	9	1	5	......	74.9	....	...	....	....	....	....	......	......
Total	....	....	....	....	....	....	*2.44	......	....	....	....	....	....	....	......	......

Total wind movement for July 4,233 miles.
*Includes 1.40 inches from July 1-15. (.—) Inappreciable.

Aug. 1	11	4	10	2	1	2	......	75.2	....	....	....	....	....	....	......	......
‘‘ 2	11	4	10	7	....	9	5.63	67.2	....	...	....	....	....	....	......	......
‘‘ 3......	...	....	..	....	...	...	......	......	10	9	10	9	....	....	.73	69.9
‘‘ 4......	10	7	10	2	....	5	......	70.4	....	....	....	....	....	....	......	......
‘‘ 5......	11	4	10	....	1	4	......	68.8	....	....	....	....	....	....	......	......
‘‘ 6......	11	4	10	....	1	4	.36	70.0	....	....	....	....	....	....	......	......
‘‘ 7......	11	2	9	10	1	4	.01	71.3	....	....	....	....	....	....	......	......
‘‘ 8......	11	....	9	10	1	2	.20	75.0	....	....	....	....	....	....	......	......
‘‘ 9......	11	1	9	11	1	2	.02	71.4	....	....	....	....	....	....	......	......
‘‘ 10......	10	9	10	1	....	8	......	68.4	....	....	....	....	....	....	......	......
‘‘ 11......	...	....	....	....	....	....	......	......	10	2	10	2	....	....	......	70.2
‘‘ 12......	....	....	....	...	....	....	......	......	10	3	10	3	...	....	.01	77.1
‘‘ 13......	....	....	....	....	....	....	......	......	10	1	10	1	....	....	......	71.7
‘‘ 14......	10	6	10	....	...	6	......	59.7	....	....	....	....	....	....	......	......
‘‘ 15	11	8	10	....	1	8	......	61 7	....	....	....	....	...	.. .	......	......
‘‘ 16......	12	....	10	....	2	....	......	65.7	...	....	....	....	...	....	......	......
‘‘ 17......	12	11	9	9	2	2	......	72.6	....	....	....	....	...	....	......	......
‘‘ 18......	12	....	10	....	2	....	......	75.5	....	....	....	....	....	....	......	......
‘‘ 19......	10	....	10	2	1	8	......	66.9	....	....	....	....	....	....	.....	......
‘‘ 20......	11	4	10	....	1	4	.....	71.6	....	....	...	....	...	....	......	......
‘‘ 21......	11	5	10	...	1	5	.23	73.4	....	....	....	....	...	....	......	......
‘‘ 22......	11	4	10	1	1	3	......	67.8	....	....	....	....	...	....	......	......
‘‘ 23......	11	5	10	4	1	1	1.92	72.0	....	....	....	...	...	...	......	......
‘‘ 24......	11	2	10	8	....	6	2.00	65.0	....	...	....	....	...	....	.....	......
‘‘ 25......	....	....	....	....	....	....	......	......	10	10	10	10	....	...	.01	59.3
‘‘ 26......	....	....	....	....	. ..	....	......	......	10	9	10	9	...	...	......	58.1
‘‘ 27......	....	...	....	....	....	....	......	......	10	4	10	4	....	....	......	61.1
‘‘ 28......	....	....	....	....	....	....	......	......	10	2	10	2	....	....	......	63.3
‘‘ 29......	...	....	....	....	....	....	......	......	10	....	10	....	...	....	.15	62.4
‘‘ 30......	....	....	....	....	....	....	......	......	10	....	10	....	...	....	.01	64.2
‘‘ 31......	...	....	....	....	..	...	......	......	10	....	10	...	..	...	......	63.0
Mean	11	4	10	1	1	3	......	69.5	10	4	10	4	....	....	......	65.5
Total	....	....	....	....	....	....	10.37	......	....	....	....	....	....	....	.91	......

Total wind movement for August, 5,786 miles.
Total rainfall for August, 11.28 inches.

Table II.—Continued.

1885. Date.	PUMPS IN EFFECTIVE OPERATION.								PUMPS IDLE OR SHOWING NO EFFECT.							
	Water in Canal.		Water in River.		Differ-ence.		Rainfall........	Daily mean temperature......	Water in Canal.		Water in River.		Differ-ence.		Rainfall........	Daily mean temperature......
	Feet...	Inches.	Feet...	Inches.	Feet...	Inches.			Feet...	Inches.	Feet...	Inches.	Feet...	Inches.		
Sept. 1......	....	....	....	....	....	....	......	......	10	2	10	2	..	....	......	57.1
" 2......	....	....	....	....	....	....	......	......	9	8	9	8	....	....	......	61.2
" 3......	....	....	....	....	....	....	......	......	9	11	9	11	...	....	......	60.6
" 4......	10	2	10	....	....	2	0.9	58.1	....	....	....	....	....	....	......	......
" 5......	11	....	10	....	1	....	0.1	56.5	....	....	....	....	....	....	......	......
" 6......	11	2	10	....	1	2	......	55.2	....	....	....	....	....	....	......	......
" 7......	11	4	9	10	1	6	.01	60.3	....	....	....	....	....	....	......	......
" 8......	11	8	10	3	1	5	1.65	64.5	....	....	....	....	....	....	......	......
" 9......	11	8	10	6	1	2	......	57.7	....	....	....	....	....	....	......	......
" 10......	....	....	....	....	....	....	......	......	10	6	10	6	....	....	(.—)	56.1
" 11......	....	....	....	....	....	....	......	......	10	1	10	1	....	...	......	64.1
" 12......	....	....	....	....	....	....	......	......	10	....	10	....	....	....	.01	70.7
" 13......	....	....	....	....	....	....	......	......	10	1	10	1	...	....	.31	68.5
" 14......	....	....	....	....	....	....	......	......	10	3	10	3	....	....	......	67.4
" 15......	....	....	....	....	....	....	......	......	10	4	10	4	....	...	......	64.8
" 16......	....	....	....	....	....	....	......	......	10	7	10	6	....	....	......	60.8
" 17......	....	....	....	....	....	....	....	......	10	4	10	4	....	....	......	67.9
" 18......	....	....	....	....	....	....	......	......	10	3	10	3	....	....	......	67.5
" 19.....	....	....	....	...	....	....	.....	......	10	2	10	2	....	....	.62	71.0
" 20......	....	....	....	....	....	....	......	......	10	1	10	1	....	....	(.—)	71.0
" 21......	....	....	....	....	....	....	......	......	9	11	9	11	....	....	......	72.9
" 22......	....	....	....	....	....	....	......	......	10	5	10	5	....	....	......	63.7
" 23......	...	....	....	....	....	..	....	......	9	11	9	11	....	....	......	54.5
" 24......	10	4	9	8	...	8	......	62.6	...	....	....	....	....	....	......	......
" 25......	11	3	9	10	1	5	......	68.7	....	....	....	....	....	....	......	......
" 26......	11	7	9	9	1	10	......	69.8	....	....	...	....	....	....	......	......
" 27......	11	6	9	11	1	7	......	67.6	....	...	....	....	....	....	......	......
" 28......	11	6	10	1	1	5	.....	68.0	....	....	...	....	....	....	......	......
" 29......	11	6	10	2	1	4	(.—)	66.6	....	....	....	....	....	....	......	......
" 30......	11	6	10	2	1	4	.02	65.0	....	....	....	....	....	....	......	......
Mean.........	11	3	10	....	1	3	......	63.1	10	2	10	2	....	....	......	64.7
Total.......	....	....	....	....	....	....	2.03	......	....	....	....	...	....	....	.94	......

Total wind movement for September, 5,726 miles.
Total rainfall for September, 2.97 inches.
(.—) Inappreciable.

Oct. 1......	11	6	10	5	1	1	(.—)	62.6	....	....	....	....	....	....	......	......
" 2......	11	8	10	2	1	6	.15	65.8	....	..	....	....	....	....	......	......
" 3......	12	3	10	1	2	2	.13	50.5	..	....	....	...	....	....	......	......
" 4......	12	4	10	....	2	4	(.—)	44.3	....	....	....	...	..	....	......	......
" 5......	12	....	9	11	2	1	.16	45.2	....	....	....	....	....	....	......	......
" 6......	11	5	9	8	1	9	......	45.5	....	..	....	....	....	....	......	...
" 7......	11	8	9	10	1	10	.21	46.5	....	....	....	....	....	....	......	......
" 8......	11	6	10	1	1	5	......	46.0	....	....	..	....	....	....	......	......
" 9......	11	5	9	8	1	9	......	51.9	....	....	....	..	....	....	......	......
" 10......	11	5	9	7	1	10	......	58.0	..	....	..	....	....	....	......	......
" 11......	11	6	10	...	1	6	......	58.8	....	....	....	.	....	....	......	......
" 12......	11	6	10	1	1	5	......	59.6	....	....	....	....	....	....	......	......
" 13......	11	6	10	3	1	3	.62	54.9		....	.	....	..	....	......	......
" 14......	11	8	10	3	1	5	.01	51.9	....	....	....	....	....	....	......	......
" 15......	11	5	9	8	1	9	......	53.9	....	....	....	....	....	....	......	......
" 16......	11	6	9	10	1	8	.. ..	57.4	...	....	....	....	....	....	......	......
" 17......	11	9	9	8	2	1	....	55.8	....	....	..	....	....	....	......	......
" 18......	12	10	9	9	3	1	.01	51.8	....	....	....	....	....	....	......	......
" 19......	12	10	10	7	2	3	2.22	47.1	...	....	...	....	....	....	......	......
" 20......	12	10	10	3	2	7	.01	40.8	....	....	....	....	....	....	......	......
" 21......	12	3	9	7	2	8	......	43.4	....	....	....	....	....	....	......	......
" 22......	12	4	9	9	2	7	......	48.2	....	....	...	..	..	....	......	......
" 23......	12	....	9	11	2	1	.....	47.3	....	....	....	....	....	....	......	......

Table II.—Continued.

1885. Date.	PUMPS IN EFFECTIVE OPERATION.								PUMPS IDLE OR SHOWING NO EFFECT.							
	Water in Canal.		Water in River.		Difference.		Rainfall	Daily mean temperature	Water in Canal.		Water in River.		Difference.		Rainfall	Daily mean temperature ......
	Feet...	Inches.	Feet...	Inches.	Feet...	Inches.			Feet ...	Inches.	Feet...	Inches.	Feet...	Inches		
Oct. 24......	11	9	9	8	2	1	......	52.5	....	....	....	....	....	....	......	......
“ 25......	11	9	9	8	2	1	......	55.8	....	....	....	....	....	....	......	......
“ 26......	11	8	9	9	1	11	......	55 7	....	....	....	....	....	....	......	......
“ 27......	11	9	10	1	1	8	(.—)	49.8	....	....	....	....	....	....	......	......
“ 28.....	11	10	10	2	1	8	(.—)	51.0	....	....	....	....	....	....	......	......
“ 29......	11	9	10	3	1	6	(.—)	44.0	....	....	....	....	....	....	......	......
“ 30......	11	8	10	3	1	5	.01	40.4	....	....	....	....		....	......	......
“ 31......	11	6	9	9	1	9	.34	44.1	....	....	....	....	....	....	......	......
Mean.........	11	9	9	11	1	10	......	51.0	....	...	....	....	....	...	......	......
Total	....	....	....	....	....	....	3.87	......	....	....	....	....	....	....	......	......

Total wind movement for October, 6,136 miles.
(.—) Inappreciable.

Nov. 1......	11	7	9	10	1	9	.30	38.0	....	....	....	....	....	...	......	......
“ 2......	11	5	9	6	1	11	.01	38.6	....	....	....	....	....	....	......	......
“ 3......	11	5	9	5	2	....	......	41 0	....	....	....	....	....	....	......	......
“ 4......	11	6	9	6	2	....	.20	48.1	....	....	....	....	....	....	......	......
“ 5......	11	8	9	11	1	9	.92	46.4	....	....	....	....	....	....	......	......
“ 6......	12	5	10	3	2	2	.34	57.6	....	....	....	....	....	....	......	......
“ 7......	11	11	9	10	2	1	.02	47.7	....	....	....	....	....	....	.....	......
“ 8......	....	....	....	....	....	....	......	......	9	6	9	6	....	....	......	41.8
“ 9......	....	....	....	....	....	....	......	......	9	7	9	7	....	....	......	38.9
“ 10.....	....	....	....	....	....	....	......	......	9	5	9	5	....	....	......	45.2
“ 11......	....	....	....	....	....	....	......	......	9	5	9	5	....	....	......	57.0
“ 12......	....	....	....	....	....	....	......	......	9	6	9	6	....	....	(.—)	49.6
“ 13......	....	....	....	....	....	....	......	......	8	7	8	7	....	...	.01	34.4
“ 14......	....	....	....	....	....	....	......	......	9	2	9	2	....	....	......	31.0
“ 15......	....	...	....	....	....	....	......	......	9	7	9	7	....	....	......	32.9
“ 16......	....	....	....	....	....	....	......	......	9	4	9	4	....	....	......	40.8
“ 17......	....	....	....	....	....	....	......	......	9	6	9	6	. ..	....	.02	50.9
“ 18......	....	....	....	....	....	....	......	......	9	8	9	8	....	....	.05	50.0
“ 19......	...	....	....	....	....	....	......	......	9	7	9	7	....	....	.11	41.3
“ 20......	....	....	....	....	....	....	......	......	9	4	9	4	....	....	......	40.8
“ 21......	....	....	....	....	....	....	......	......	9	7	9	7	...	....	......	39.0
“ 22......	....	....	....	....	....	....	......	......	9	10	9	10	....	....	(.—)	35.9
“ 23......	....	....	....	....	....	....	......	......	9	10	9	10	....	....	.30	38.9
“ 24......	....	....	....	....	....	....	......	......	9	10	9	10	....	....	.06	37.5
“ 25......	....	....	....	....	....	....	......	......	10	...	10	....	....	....	......	36.6
“ 26......	....	....	....	....	....	....	......	......	9	8	9	8	..	....	......	36.0
“ 27......	....	....	....	....	....	...	......	......	9	8	9	8	....	....	......	37.8
“ 28	10	....	9	8	....	4	......	40.9	....	....	....	....	....	....	.....	......
“ 29......	11	..	9	2	1	10	......	41.1	....	....	....	....	....	....	......	......
“ 30......	11	2	9	3	2	....	(.—)	40 3	....	...	....	....	....	....	......	......
Mean.........	11	4	0	7	1	9	......	43.7	9	6	9	6	....	....	......	40.8
Total	....	....	....	....	....	....	1.78	......	....	....	....	....	....	....	.55	......

Total wind movement for November, 6,185 miles.
Total rainfall for November, 2.33 inches.
(.—) Inappreciable.

Table II.—Continued.

	PUMPS IN EFFECTIVE OPERATION.								PUMPS IDLE OR SHOWING NO EFFECT.							
1885. Date.	Water in Canal.		Water in River.		Difference.		Rainfall	Daily mean temperature	Water in Canal.		Water in River.		Difference.		Rainfall	Daily mean temperature ......
	Feet .	Inches.	Feet ...	Inches	Feet ...	Inches.			Feet ...	Inches.	Feet ...	Inches	Feet .	Inches.		
Dec. 1......	11	2	9	8	1	6	.05	42.6	....	....	....	....	....	....	......	......
" 2......	11	2	8	9	2	5	(.—)	38.7	....	....	....	....	....	....	......	......
" 3.....	11	....	9	....	2	....	......	37.3	....	....	....	....	....	....	......	......
" 4......	11	....	9	....	2	....	.17	34.6	....	....	....	....	....	....	......	......
" 5......	11	4	8	10	2	6	.01	18.2	....	....	....	....	....	....	......	......
" 6	11	3	8	10	2	5	.03	11.1	....	....	....	....	....	....	......	......
" 7......	11	1	9	1	2	....	......	9.5	....	....	....	....	....	....	......	......
" 8......	11	4	8	11	2	5	1.21	33.5	....	....	....	....	....	....	......	......
" 9......	11	6	9	6	2	....	.57	31.2	....	....	....	....	....	....	......	......
" 10......	11	6	9	5	2	1	.03	17.0	....	....	....	....	....	....	......	......
" 11......	11	8	9	4	2	4	(.—)	13.9	....	....	....	....	....	....	......	......
" 12......	12	....	8	10	3	2	.24	25.5	....	....	....		....	....	......	......
" 13	12	....	8	10	3	2	.61	29.0	....	....	....	....	....	....	......	......
" 14......	12	2	8	6	3	8	.03	14.5	....	....	....	....	....	....	......	......
" 15......	11	11	8	6	3	5	(.—)	22.2	....	....	....	....	....	....	......	......
" 16......	11	10	8	6	3	4	......	12 2	....	....	....	....	....	....	......	......
" 17......	12	....	9	....	3	....	(.—)	33.1	....	....	....	....	....	....	......	......
" 18	12	....	9	4	2	8	(.—)	33.8	....	....	....	....	....	....	......	......
" 19......	12	....	9	1	2	8	......	27.0	....	....	....	....	....	....	......	......
" 20......	11	10	9	6	2	4	......	31 3	....	....	....	....	....	....	......	......
" 21......	12	1	9	6	2	7	......	39.9	....	....	....	....	....	....	......	......
" 22......	12	4	9	6	2	10	......	45.4	....	....	....	....	....	....	......	......
" 23......	12	....	9	8	2	4	.09	43.7	....	....	....	....	....	....	......	......
" 24......	12	....	9	6	2	6	.01	37 2	....	....	....	....	....	....	......	......
" 25......	12	...	9	8	2	4	.02	33.3	....	...	....	....	....	....	......	......
" 26......	12	....	9	...	3	....	......	32.8	....	..	....	....	....	....	......	......
" 27......	11	9	8	10	2	11	......	34.9	....	....	..	....	....	....	......	......
" 28......	11	8	9	2	2	6	(.—)	39.2	....	....	....	....	....	....	......	......
" 29......	11	7	9	2	2	5	.15	44.2	....	....	....	....	.	....	......	......
" 30......	11	9	9	6	2	3	.13	42.4	....	....	....	....	....	....	......	......
" 31......	12	....	9	6	2	6	......	36.5	....	....	....	....	....	....	......	......
Mean	11	9	9	2	2	7	......	31.2	....	....	....	....	....	....	......	......
Total	....	....	....	....	....	....	3.35	......	....	....	....	....	....	....	......	.. ...

Total wind movement for December, 6,700 miles.
(.—) Inappreciable.

Measurements of the stage of water in the canal and in the river have been obtained for each day from July 17, 1885 to December 31st, incl. These show that the pumps were in effective operation until the first of August, inclusive, maintaining a mean difference of 17 inches between the canal and river levels—the highest canal level being 11 ft. 6 in. July 17, and the lowest 11 ft. on the 22d and 23d; the highest river level was 10 feet 2 in., July 26th and August 1st, and the lowest 9 feet 6 in. on the 22d July—the maximum difference being 23 inches, July 17th, when the river level was 9 ft. 7 in. and the canal 11 ft. 6 in. During this period there was a total rainfall of only 1.04 inches, distributed over seven days, the maximum amount on any one day being .54 inch (July 29),—not sufficient to affect the operation of the pumps upon the contents of the Chicago river.

On the 2d of August there fell the enormous amount of 5.93 inches of rain, and the Desplaines river poured through the Ogden-Wentworth ditch, the entire contents of the river and branches and the concentrated filth of the South Fork being flushed out into the lake. The pumps were suspended on the 3d, but resumed operations on the 4th and continued until the 11th, when, it being obvious that they were simply lifting Desplaines water, which, if unimpeded, would flow by gravity down the canal, the pumps were stopped and the gates opened, making the level in the canal and river the same. Meanwhile, the sewage product of the city was accumulating in the river, and, combined with the high temperature, there resulted a more offensive condition of the river than had obtained at any time since the "deep cut" was completed. On the 14th, although the Desplaines still continued to pour in through the broken dam of the Ogden-Wentworth ditch, the pumps were again started and, with the entire plant pushed to its utmost, succeeded on the 17th in raising the level in the canal 26 inches above the river, and this, with the reducing flow from the Desplaines, produced a sensible improvement in the condition of the main river and South branch, which continued until the heavy rain of August 24-25 (3.92 inches). This again flushed out the South Fork, and, with the Desplaines torrent taxing the full capacity of the canal, this filth and the contents of the river were again poured into the lake. The pumps were stopped on the 27th, not resuming until September 4. During August the unprecedented amount of 11.28 inches of rain fell—a precipitation without parallel in the records of the signal-service station at Chicago.

In September, the pumps were obviously operated only 13 days, maintaining an average difference of but 15 inches from the 4th to the 9th, and from the 24th to the 30th. From this latter date they were operated continuously until the 7th of November, inclusive, maintaining 22 inches difference in the levels during this period; but from the 8th to the 27th of November, inclusive, they do not seem to have been in operation—there being no difference in the levels reported until the 28th, when the canal was 4 inches higher than the river.[*]

Any study of these data and attempt to assign to each factor its relative value and influence in the production of a given effect on any given day, requires that there be taken into account the varying wind movement as to direction and velocity; the temperature; rainfall;[†] the lake level—higher by an average of 14 inches in August than in December, and sometimes changing twelve inches in 24 hours, as, for example, where, under the influence of 2.22 inches of rain and a wind movement of 330 miles from the northeast on the 19th of October, the lake rose from 9 ft. 9 in. to 10 ft. 7 in. and then fell to 9 ft. 7 in. on the 21st under a southwest wind of nearly 24 miles per hour. These and other influences affect the direction and velocity of the current in the Chicago river, determine the movements of its sewage contents and the amount, extent and locality of the effect on the water supply. Some of the data furnished need verification, and the tables submitted are to be regarded only as a contribution to the study which it is proposed to continue.

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[*] It was anticipated that a marked improvement in the chemical determinations would follow the completion of the dam at the Ogden-Wenthworth ditch. But this suspension of the pumps sufficiently accounts for the failure to realize such anticipated improvement

[†] These heavy rainfalls—Aug. 2-3=6.33 in., Aug. 23-24=3.92 in., Sept. 8-9=1.95 in. and Oct. 19=2.22 in.—washed an immense amount of sediment from the watersheds of the Des-Plaines and North branch, out into the lake where it was deposited along the shore. This deposit—stirred up by heavy winds from time to time, and these made more effective for this purpose by the lowering lake level—has had much to with the remarkable turbidity of the water.

But there are certain general conclusions which it is entirely safe to make, and which harmonize with, and corroborate, the recommendations made six years ago on this subject. It is beyond question that the sewage of about 70,000 persons is daily poured into the lake from Chicago, Lake View and Hyde Park. The sewage of fully 400,000 additional population for at least forty days in August, September and November, 1885, was also emptied into Lake Michigan. Twice during this period the indescribable filth of the South Fork was swept into the same source of water-supply, and during a portion of the time the contents of the North branch were pumped through the Fullerton avenue conduit into this general receptacle and fountain.

It is not at all surprising that the quality of the drinking water is proved by the test-tube and the microscope to be varyingly affected, nor that the river and its branches become offensive.* But it is not Chicago and the immediately subjacent territory which are alone concerned in the proper solution of this problem. The communities along the canal and river, to Peoria at least, are also interested. It is indispensable to the health of Chicago and of the towns and villages along the lake shore, from Evanston to South Chicago, that Lake Michigan be unpolluted, and this involves some disposition of their sewage product other than its deposit in the lake. For the present, at least, and for some time to come, its disposal by water-carriage toward the Mississippi presents the most feasible mode. But to do this without offense or injury to the health of the communities through which it must flow demands its dilution with the pure water of the lake. Until the existing waterway to the Illinois river is improved, so that this flow shall be by gravity, maintaining a constant current through the Chicago river and its branches, reliance must be placed upon pumping at Bridgeport. The fact, previously noted in my reports, that these pumps have not the contract capacity, has been recently admitted, and it is now understood that they are to be increased to the 60,000 cubic feet, recommended in my report in January, 1880. To secure the effect of these pumps upon the contents of the river requires the exclusion of the ordinary flow of the Desplaines from the canal, and it is not understood that this has yet been secured, except in so far as the rebuilt dam will prevent anything less than a 3½ ft. rise from flowing through the ditch. The question of the capacity of the canal should also be determined. It is stated that this capacity has never been reached by any amount of water yet pumped into it; and that between the 8th and 13th of January two ice-gorges occurred, which for five days materially reduced even the ordinary flow, while it is obvious that the capacity is always reduced in winter by the amount of ice formed in the canal. (It is possible that these ice-gorges had some effect on the condition of the water, as shown by the chemical determinations of the 16th).

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*In October and November the microscope on several occasions revealed, in the water drawn from the laboratory hydrant, particles of the cortex of corn evidently from distillery refuse.

No attempt is made at this time to deal exhaustively with the subject, but merely to indicate some of the many factors which enter into the problem. The creation of a metropolitan drainage district, co-extensive with the area interested in a pure water supply from Lake Michigan, and the subdivision of this for individual treatment as may be determined by engineering experts, would seem necessary for its satisfactory solution.

Legislation by the State will undoubtedly be necessary to carry out any satisfactory plan; but before such legislation can be obtained, the plan itself should be formulated, and for this, before the next session of the general assembly, there is no time to spare.

Meanwhile, the obvious duty of the Board is to push the collection of these positive data, so as to be prepared, should the emergency demand, not only to advise but to direct as to the measures necessary for the protection of the public health in this respect.

An arrangement, on behalf of the Board, has been made with the Regent of the Illinois University at Champaign, whereby the authorities of any city, town or village may have a chemical examination of their water-supply made free of cost, except the expense of transporting the sample to the University. Those desirous of availing themselves of this opportunity should forward at least half a gallon of the water in an earthenware or glass vessel, securely protected against breakage. The vessel must be perfectly clean; should be rinsed out with the water to be examined before it is filled; and then tightly corked and sealed.

FINANCIAL STATEMENT

OF THE

ILLINOIS STATE BOARD OF HEALTH,

FOR THE

Fiscal Year ended September 30, 1885.

State Board of Health—Dr.

To State Treasurer:		
Balance of Regular Appropriations, October 1, 1884	$6,676 80	
Balance of Contingent Fund, available October 1, 1884	4,324 94	
Regular Appropriations, taking effect July 1, 1885	12,000 00	
Contingent Fund, taking effect July 1, 1885	40,000 00	
		$63,001 74
To Treasurer of Board:		
Balance in Treasurer's hands, October 1, 1884	$342 46	
Office Receipts for the year ended September 30, 1885	624 00	
		966 46
		$63,968 20

State Board of Health—Cr.

By payment on all accounts as per itemized statement	$12,831 26	
Unexpended balances of Regular Appropriations, October 1, 1885	10,814 82	
Unexpended amount of Contingent Fund, lapsed into State Treasury, September 30, 1885	75	
Unexpended balance of Contingent Fund, October 1, 1885	40,000 00	
Unexpended balance in hands of Treasurer of Board, October 1, 1885.	321 37	
		$63,968 20

ITEMIZED STATEMENT OF EXPENDITURES

OF THE

ILLINOIS STATE BOARD OF HEALTH,

FOR THE

Fiscal Year ended September 30, 1885.

Salary of Secretary	$3,125 00	
Assistant Secretary and clerical services	5,601 69	
Expenses of Board and Secretary, attending meetings and making sanitary investigations	1,161 11	
Postage	704 45	
Expressage	588 11	
Telegrams	93 15	
Telephone-rent and toll	48 50	
Stationery and printing	37 24	
Medical journals, books and newspapers	211 36	
Legal services and costs of suits	426 89	
Detective service	83 20	
Vaccine virus	212 65	
Chemical analysis of water and poisoned meats	350 00	
Investigating glanders in human subject	22 70	
Appropriation to Committee on Disinfectants, A. P. H. A.	50 00	
Janitor	72 00	
Sundries	43 30	
		$12,831 26

Total expenditures from Regular Appropriations	$7,861 98	
Total expenditures from Contingent Fund	4,324 19	
Total expenditures from Office Receipts	645 09	
		$12,831 26

REPORT OF THE TREASURER

OF THE

ILLINOIS STATE BOARD OF HEALTH,

FISCAL YEAR ENDED SEPTEMBER 30, 1885.

To the President and Members of the Illinois State Board of Health:

GENTLEMEN: Your Treasurer begs leave to present the following report of the receipts and expenditures of his office for the period commencing with the date of his last Annual Report, October 1, 1884 and ending September 30, 1885:

General Account, Dr.

Balance to credit of general account, Sept. 30, 1884		$342 46
Received of Dr. John H. Rauch, Secretary:		
Office Receipts for October, 1884	$38 00	
" " November, 1884	27 00	
" " December, 1884	32 00	
" " January, 1885	26 00	
" " February. 1886	40 00	
" " March, 1885	88 00	
" " April, 1885	102 00	
" " May, 1885	72 00	
" " June, 1885	57 00	
" " July, 1885	45 00	
" " August, 1885	49 00	
" " September, 1885	48 00	
		624 00
Total available		$966 46

General Account, Cr.

Accounts paid by order of the Board for indebtedness accrued during the quarters preceding the respective meetings:

January Meeting—for quarter ended December 31, 1884—		
T. G. Vincent, expenses as witness in case against Chicago quacks	$38 55	
John H. Rauch, expense incident to trials	10 75	
Allan Pinkerton, services	10 00	
		$59 30
April Meeting—for quarter ended March 31, 1885—		
Allan Pinkerton, services	$73 20	
T. G. Vincent, expenses in connection with Bate cases	48 50	
John H. Rauch, expenses prosecuting Lucas case	24 25	
R. E. Starkweather, clerical services	10 00	
		$155 95
July Meeting—for quarter ended June 30, 1885—		
Thompson & Felsenthal, legal services	$235 89	
John H. Rauch, expenses in connection with suits	11 75	
		$247 64
September Meeting—for quarter ended September 30, 1885—		
Phocian Howard, expenses prosecuting Kingsley case	$15 00	
T. G. Whitten, expenses prosecuting Indian doctor	12 00	
Mabin & Richardson, legal services	25 00	
O. B. Will, expenses in Keck case	5 20	
John H. Rauch, salary as Secretary	125 00	
		$182 20
Total expenditure	$645 09	
Balance in my hands September 30, 1885	321 37	
		$966 46

All of which is respectfully submitted.

A. L. CLARK, *Treasurer.*

Audited and approved:

W. A. HASKELL, } *Auditing Committee.*
W. R. MACKENZIE, }

APPENDIX

TO THE

EIGHTH ANNUAL REPORT:

EMBRACING

A.—Report on Disinfection and Disinfectants.
B.—Coast Defenses against Asiatic Cholera.
C.—Sanitary Council of the Mississippi Valley.
D.—Meteorogical Tables.
E.—State Sanitary Survey and House-to-House Inspection.
F.—Vital Statistics of Illinois for 1885.
G.—Medical Education in the United States and Canada.

Illinois State Board of Health.
Springfield, Ill.
1886.

A.—DISINFECTION AND DISINFECTANTS.

REPORT ON DISINFECTION AND DISINFECTANTS.

At the April, 1885, meeting of the Illinois State Board of Health the Secretary was instructed to prepare for the use of local boards of health and health officers throughout the State an edition of the preliminary report of the Committee on Disinfectants appointed at the twelfth annual meeting of the American Public Health Association. That committee was appointed to examine the subject of disinfectants, antiseptics and germicides in their relations to preventive medicine and sanitation, and to formulate a table of these agents for the information of those interested, the agents to be classified, so far as may be deemed advisable, according to their specific virtues, facility of application, and economy of use.

The Committee was composed of the following named gentlemen:

Dr. George M. Sternberg, Surgeon U. S. Army, Fellow by Courtesy in the Johns Hopkins University, Baltimore; Dr. Joseph H. Raymond, Professor of Physiology and Sanitary Science in Long Island College Hospital, and Health Commissioner of the city of Brooklyn: Dr. Victor C. Vaughan, Professor of Physiological Chemistry in the University of Michigan, and Member of the Michigan State Board of Health: Major Charles Smart, Surgeon U. S. Army, and Member of the National Board of Health; Dr. W. H. Watkins, Medical Director of the Auxiliary Sanitary Association of New Orleans; Dr. Albert R. Leeds, Professor of Chemistry in Stevens' Institute of Technology, and Member of the New Jersey State Board of Health; and Dr. George H. Rohé, Professor of Hygiene in the College of Physicians and Surgeons, Baltimore.

The Secretary of the Board had already addressed—as Secretary of the Sanitary Council of the Mississippi Valley, and in accordance with a resolution of the Council—a letter to Dr. Sternberg, chairman of the above committee, requesting to be furnished with "a plain, practical paper on disinfection and disinfectants, for popular use and distribution."

In response to this request Dr. Sternberg forwarded the preliminary report above referred to, stating that "At a special meeting of the Committee on Disinfectants, called for the purpose, the paper submitted was carefully considered and adopted unanimously as expressing the views of this committee with reference to the best methods of disinfection known to us."

This preliminary report was subsequently so far modified by the Committee that the preparation of the special edition for distribution in Illinois was postponed, with the consent of the BOARD, and the following conclusions and summary are taken from the Final Report of the Committee.*

This final report—which makes an octavo volume of pp. xi, 137—comprises the general report of the Secretary, Dr. Rohé, preliminary remarks by the chairman, Dr. Sternberg, and Experimental Data on Commercial Disinfectants Nos. 1 and 2, with Notes on Potassium permanganate, Hydrogen peroxide, the Metallic sulphates, Mercuric chloride, the Salts and Oxides of Mercury, Sulphur dioxide, the Sulphites, Moist Heat, and the Sterilization of feces—by Dr. Sternberg; on Chlorine, Bromine and Iodine, on Zinc chloride and on Dry Heat—by Dr. Rohé; on Carbolic acid, and the Disinfectant properties of Putrefaction products—by Dr. Smart; on Disinfection with Mineral acids, and on Mercuric chloride—by Dr. Vaughan; on Sulphurous-acid gas, and on Sulphur—by Dr. Raymond.

The experimental evidence recorded in this report seems to justify the following

CONCLUSIONS.

The most useful agents for the destruction of spore-containing infectious material are:

1. *Fire.* Complete destruction by burning.
2. *Steam under pressure.* 110° C. (230° Fahr.) for ten minutes.
3. *Boiling in water* for one hour.†
4. *Chloride of lime.*‡ A 4% solution.
5. *Mercuric chloride.* A solution of 1 : 500.

For the destruction of infectious material which owes its infecting power to the presence of micro-organisms *not containing spores,* the Committee recommends:

1. *Fire* Complete destruction by burning.
2. *Boiling in water* half an hour.
3. *Dry heat.* 110° C. (230° Fahr.) for two hours.
4. *Chloride of lime.*‡ 1 to 4% solution.
5. *Solution of chlorinated soda.*§ 5 to 20% solution.
6. *Mercuric chloride.* A solution of 1 : 1000 to 1 : 4000.
7. *Sulphur dioxide.* Exposure for 12 hours to an atmosphere containing at least 4 volumes per cent. of this gas, preferably in presence of moisture.‖
8. *Carbolic acid.* 2 to 5% solution.

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* From the Financial Statement of the Committee, prefacing its final report, it appears that the American Public Health Association, the State Boards of Health of Connecticut, Illinois, Iowa, Massachusetts, Michigan and New York, and Messrs. H. Lomb and W. G. Little, contributed $50 each; the State Boards of Louisiana, South Carolina and Wisconsin, the Provincial Board of Canada and the City Boards of Boston, Charleston and Pittsburg, $25 each; the Brooklyn Board of Health, $100; the Newport Sanitary Association, $10; and members of the Committee, $12.15—making the total expenses for laboratory investigations, compensation of assistants and publication of the Preliminary Report, $747.15.

† This temperature does not destroy the spores of *B. subtilis* in the time mentioned but is effective for the destruction of the spores of the anthrax bacillus and of all known pathogenic organisms.

‡ Should contain at least 25 per cent. of available chlorine.

§ Should contain at least 3 per cent. of available chlorine.

‖ This will require the combustion of between 3 and 4 lbs. of sulphur for every 1000 cubic feet of air space.

9. *Sulphate of copper.* 2 to 5% solution.
10. *Chloride of zinc.* 4 to 10% solution.

The Committee would make the following recommendations with reference to the practical application of these agents for disinfecting purposes:

FOR EXCRETA.

(*a.*) In the sick room:

For spore-containing material,
1. Chloride of lime in solution, 4%.
2. Mercuric chloride in solution, 1 : 500.[*]
In the absence of spores,
3. Carbolic acid in solution, 5%.
4. Sulphate of copper in solution, 5%.
5. Chloride of zinc in solution, 10%.

(*b.*) In privy vaults:

Mercuric chloride in solution, 1 : 500.[†]

(*c.*) For the disinfection and deodorization of the surface of masses of organic material in privy vaults, etc.:

Chloride of lime in powder.[‡]

FOR CLOTHING, BEDDING, ETC.

(*a.*) Soiled under-clothing, bed linen, etc.:

1. Destruction by fire, if of little value.
2. Boiling for at least half an hour.
3. Immersion in a solution of mercuric chloride of the strength of 1 : 2000 for four hours.[§]
4. Immersion in a two per cent. solution of carbolic acid for four hours.

(*b.*) Outer garments of wool or silk, and similar articles, which would be injured by immersion in boiling water or in a disinfecting solution:

1. Exposure to dry heat at a temperature of 110° C. (230° Fahr.) for two hours.

(2.) Fumigation with sulphurous acid gas for at least twelve hours, the clothing being freely exposed, and the gas present in the disinfection chamber in the proportion of four volumes per cent.

(*c.*) Mattresses and blankets soiled by the discharges of the sick:

1. Destruction by fire.
2. Exposure to super-heated steam—25 lbs. pressure—for one hour. (Mattresses to have the cover removed or freely opened.)

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[*] The addition of an equal quantity of potassium permanganate as a deodorant, and to give color to the solution, is to be recommended (*Standard Solution No. 2.*)

[†] A concentrated solution containing four ounces of mercuric chloride and one pound of cupric sulphate to the gallon of water is recommended as a *standard solution.* Eight ounces of this solution to the gallon of water will give a dilute solution for the disinfection of excreta, containing about 1 : 500 of mercuric chloride and 1 : 125 of cupric sulphate.

[‡] For this purpose the chloride of lime may be diluted with plaster of Paris, or with clean, well-dried sand, in the proportion of one part to nine.

[§] The blue solution containing sulphate of copper, diluted by adding two ounces of the concentrated solution to a gallon of water, may be used for this purpose.

3. Immersion in boiling water for one hour.
4. Immersion in the blue solution (mercuric chloride and sulphate of copper) two fluid ounces to the gallon of water.

FURNITURE AND ARTICLES OF WOOD, LEATHER AND PORCELAIN.*

Washing, several times repeated, with:

1. Solution of mercuric chloride 1 : 1000. (The blue solution, four ounces to the gallon of water, may be used.)
2. Solution of chloride of lime, 1 %.
3. Solution of carbolic acid, 2 %.

FOR THE PERSON.

The hands and general surface of the body of attendants, of the sick, and of convalescents at the time of their discharge from hospital:

1. Solution of chlorinated soda diluted with nine parts of water (1 : 10.)
2. Carbolic acid, 2 % solution.
3. Mercuric chloride, 1 : 1000; recommended only for the hands, or for washing away infectious malarial from a limited area, not as a bath for the entire surface of the body.

FOR THE DEAD.

Envelope the body in a sheet thoroughly saturated with:

1. Chloride of lime in solution, 4 %.
2. Mercuric chloride in solution, 1 : 500.
3. Carbolic acid in solution, 5 %.

FOR THE SICK ROOM AND HOSPITAL WARDS.

(*a.*) While occupied, wash all surfaces with:

1. Mercuric chloride in solution, 1 : 1000. (The blue solution, containing sulphate of copper, may be used.)
2. Choloride of lime in solution, 1 %.
3. Carbolic acid in solution, 2 %.

(*b.*) When vacated:

Fumigate with sulphur dioxide for 12 hours, burning 3 pounds of sulphur for every 1000 cubic feet of air space in the room; then wash all surfaces with one of the above mentioned disinfecting solutions, and afterwards with soap and hot water; finally throw open doors and windows and ventilate freely.

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*For articles of metal use solution No. 3.

FOR MERCHANDISE AND THE MAILS.[*]

The disinfection of merchandise and of the mails will only be required under exceptional circumstances; free aeration will usually be sufficient. If disinfection seems necessary, fumigate with sulphur dioxide, as recommended for woolen clothing, etc., will be the only practicable method of accomplishing it.

RAGS.

(*a.*) Rags which have been used for wiping away infectious discharges should at once be burned.

(*b.*) Rags collected for the paper-makers during the prevalence of an epidemic should be disinfected before they are compressed in bales by:

1. Exposure to super-heated steam (25 lbs pressure) for ten minutes.
2. Immersion in boiling water for half an hour.

(*c.*) Rags in bales can only be disinfected by injecting super-heated steam (50 lbs. pressure) into the interior of the bale. The apparatus used must insure the penetration of the steam to every portion of the bale.

SHIPS.

(*a.*) Infected ships at sea should be washed in every accessible place, and especially the localities occupied by the sick, with:

1. Solution of mercuric chloride 1 : 1000. (The blue solution heretofore recommended may be used.)
2. Solution of chloride of lime 1 %.
3. Solution of carbolic acid 2 %.

The bilge should be disinfected by the *liberal* use of a strong solution of mercuric chloride. (The concentrated solution—"blue solution"—of this salt with cupric sulphate may be used.)

(*b.*) Upon arrival at a quarantine station an infected ship should at once be fumigated with sulphurous acid gas, using three pounds of sulphur for every 1000 cubic feet of air space; the cargo should then be discharged on lighters; a liberal supply of the concentrated solution of mercuric chloride (4 oz. to the gallon) should be thrown into the bilge, and at the end of twenty-four hours the bilge water should be pumped out and replaced with *pure* sea water; this should be repeated. A second fumigation after the removal of the cargo is to be recommended; all accessible surfaces should be washed with one of the disinfecting solutions heretofore recommended, and subsequently with soap and hot water.

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[*] In order to secure penetration of the envelope by the sulphur dioxide, all mail matter should be perforated by a cutting stamp before fumigating.

As REVISED by the Committee, the following is the text of their paper for popular use and distribution:

DISINFECTION AND DISINFECTANTS.

The object of *disinfection* is to prevent the extension of infectious diseases by destroying the specific infectious material which gives rise to them. This is accomplished by the use of *disinfectants*.

There can be no partial disinfection of such material; either its infecting power is destroyed or it is not. In the latter case there is a failure to disinfect. Nor can there be any disinfection in the absence of infectious material.

It has been proved for several kinds of infectious material that its specific infecting power is due to the presence of living microorganisms, known in a general way as "disease germs;" and practical sanitation is now based upon the belief that the infecting agents in all kinds of infectious material are of this nature. Disinfection, therefore, consists essentially in the destruction of disease germs.

Popularly, the term disinfection is used in a much broader sense. Any chemical agent which destroys or masks bad odors, or which arrests putrefactive decomposition is spoken of as a disinfectant. And in the absence of any infectious disease it is common to speak of disinfecting a foul cess-pool, or bad smelling stable, or privy vault.

This popular use of the term has led to much misapprehension, and the agents which have been found to destroy bad odors—*deodorizers*—or to arrest putrefactive decomposition—*antiseptics*—have been confidently recommended and extensively used for the destruction of disease germs in the excreta of patients with cholera, typhoid fever, etc.

The injurious consequences which are likely to result from such misapprehension and misuse of the word disinfectant will be appreciated when it is known that:

Recent researches have demonstrated that many of the agents which have been found useful as deodorizers, or as antiseptics, are entirely without value for the destruction of disease germs.

This is true, for example, as regards the sulphate of iron or copperas, a salt which has been extensively used with the idea that it is a valuable disinfectant. As a matter of fact, sulphate of iron in saturated solution does not destroy the vitality of disease germs or the infecting power of material containing them. This salt is, nevertheless, a very valuable antiseptic, and its low price makes it one of the most available agents for the arrest of putrefactive decomposition in privy vaults, etc.

Antiseptic agents, however, exercise a restraining influence upon the development of disease germs, and their use during epidemics is to be recommended, when masses of organic material in the vicinity of human habitations can not be completely destroyed, or removed, or disinfected.

While an antiseptic agent is not necessarily a disinfectant, all disinfectants are antiseptics; for putrefactive decomposition is due to the development of "germs" of the same class as that to which disease germs belong, and the agents which destroy the latter also destroy the bacteria of putrefaction, when brought in contact with them in sufficient quantity, or restrain their development when present in smaller amounts.

A large number of the proprietary "disinfectants," so called, which are in the market, are simply deodorizers or antiseptics, of greater or less value, and are entirely untrustworthy for disinfecting purposes.

Antiseptics are to be used at all times when it is impracticable to remove filth from the vicinity of human habitations, but they are a poor substitute for cleanliness.

During the prevalence of epidemic diseases, such as yellow fever, typhoid fever and cholera, it is better to use in privy vaults, cesspools, etc., those antiseptics which are also disinfectants—*i. e.*, germicides; and when the contents of such receptacles are known to be infected this becomes imperative.

Still more important is the destruction at our sea-port quarantine stations of infectious material which has its origin outside of the boundaries of the United States, and the destruction, within our boundaries, of infectious material given off from the persons of those attacked with any infectious disease, whether imported or of indigenous origin.

In the sick room we have disease germs at an advantage, for we know where to find them, as well as how to kill them. Having this knowledge, not to apply it would be criminal negligence, for our efforts to restrict the extension of infectious diseases must depend largely upon the proper use of disinfectants in the sick room.

GENERAL DIRECTIONS.

Disinfection of Excreta, etc.—The infectious character of the dejections of patients suffering from cholera and from typhoid fever is well established; and this is true of mild cases and of the earliest stages of these diseases as well as of severe and fatal cases. It is probable that epidemic dysentery, tuberculosis, and perhaps diphtheria, yellow fever, scarlet fever and typhus fever may also be transmitted by means of the alvine discharges of the sick. It is, therefore, of the first importance that these should be disinfected. In cholera, diphtheria, yellow fever and scarlet fever, all vomited material should also be looked upon as infectious. And in tuberculosis, diphtheria, scarlet fever and infectious pneumonia, the sputa of the sick should be disinfected or destroyed by fire. It seems advisable also to treat the urine of patients sick with an infectious disease with one of the disinfecting solutions below recommended.

Chloride of lime, or bleaching powder, is perhaps entitled to the first place of disinfecting excreta, on account of the rapidity of its action. The following standard solution is recommended:

STANDARD SOLUTION NO. 1.

Dissolve Chloride of Lime of the best quality[*] *in pure water, in the proportion of four ounces to the gallon.*

Use one quart of this solution for the disinfection of each discharge in cholera, typhoid fever, etc.[†] Mix well and leave in vessel for at least one hour before throwing into privy vault or water-closet. The same directions apply for the disinfection of vomited matters. Infected sputum should be discharged directly into a cup half full of the solution.

STANDARD SOLUTION NO. 2.

Dissolve Corrosive Sublimate and Permanganate of Potash in pure water, in the proportion of two drachms of each salt to the gallon.

This is to be used for the same purposes and in the same way as *Standard Solution No.* 1. It is equally effective, but it is necessary to leave it for a longer time in contact with the material to be disinfected—at least four hours. The only advantage which this solution has over the chloride of lime solution consists in the fact that it is odorless, while the odor of chlorine in the sick room is considered by some persons objectionable. The cost is a little more.[‡] It must be remembered that this solution is highly poisonous. It is proper, also, to call attention to the fact that *it will injure lead pipes if passed through them in considerable quantities.*

It will be best to empty the vessel containing excreta and disinfectant into an earthen jar or wooden vessel and to leave it for twenty-four hours, at the end of which time it may be thrown into a privy vault, or into a hole in the ground excavated for this special purpose.

Disinfection of the Person.—The surface of the body of a sick person, or of his attendants, when soiled with infectious discharges, should be at once cleansed with a suitable disinfecting agent. For this purpose solution of chlorinated soda (*liquor sodæ chlorinatæ*) diluted with nine parts of water, or *Standard Solution No.* 1 diluted with three parts of water, may be used. A two per cent. solution of carbolic acid is also suitable for this purpose, and under proper supervision the use of a solution of corrosive sublimate—1 : 1000—is to be recommended.

In diseases like small-pox and scarlet fever, in which the infectious agent is given off from the entire surface of the body, occasional ablutions with solution of chlorinated soda diluted with twenty parts of water, will be more suitable than the stronger solution above recommended.

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[*] Good chloride of lime should contain at least 25 per cent. of available chlorine. It may be purchased by the quantity at 3½ cents per pound. The cost of the standard solution recommended is therefore less than one cent a gallon. A clear solution may be obtained by filtration or by decantation, but the insoluble sediment does no harm, and this is an unnecessary refinement.

[†] For a very copious discharge use a larger quantity. For the disinfection of solid or semi-solid feces use a solution of twice this strength—8 oz. to a gallon of water—in the proportion of one quart for every 4 oz. of material to be disinfected.

[‡] Corrosive sublimate costs about 70 cents a pound, and permanganate of potash 65 cents a pound, by a single pound. This makes the cost of *Standard Solution No.* 2 a little more than two cents a gallon.

In all infectious diseases the body of THE DEAD should be enveloped in a sheet saturated with *Standard Solution No.* 1, or with a 5 per cent. solution of carbolic acid, or a 1 : 500 solution of corrosive sublimate.

Disinfection of Clothing.—Boiling for half an hour will destroy the vitality of all known disease germs, and there is no better way of disinfecting clothing or bedding which can be washed than to put it through the ordinary operations of the laundry. No delay should occur, however, between the time of removing soiled clothing from the person or bed of the sick and its immersion in boiling water, or in one of the following solutions; and no article should be permitted to leave the infected room until so treated.

STANDARD SOLUTION NO. 3.

Dissolve four ounces of Corrosive Sublimate and one pound of Sulphate of Copper in a gallon of water.

Two fluid ounces of this standard solution to the gallon of water will make a suitable solution for the disinfection of clothing. The articles to be disinfected must be thoroughly soaked with the disinfecting solution and left in it for at least two hours, after which they may be wrung out and sent to the wash.

[N. B. *Solutions of corrosive sublimate should not be placed in metal receptacles*, for the salt is decomposed and the mercury precipitated by contact with copper, lead or tin. A wooden tub or earthen crock is a suitable receptacle for such solutions.]

When diluted as directed this solution may be used without danger from poisoning through the medium of clothing immersed in it, or by absorption through the hands in washing. A poisonous dose could scarcely be swallowed by mistake, owing to the metallic taste of the solution, and the considerable quantity which would be required to produce a fatal effect.

Clothing may also be disinfected by immersing it for four hours in a two per cent. solution of carbolic acid.

Clothing or bedding which cannot be washed or subjected to the action of steam, may be disinfected by exposure to dry heat in a properly constructed disinfecting chamber for three or four hours. A temperature of 230° Fah., should be maintained during this time, and the clothing must be freely exposed—*i. e.*, not folded or arranged in piles or bundles, for the penetrating power of dry heat is very slight.*

The temperature above mentioned will not distroy the *spores* of bacilli—e. g., of the anthrax bacillus, but is effective for the destruction of all disease germs which do not form spores; and there is good reason to believe that this list includes small-pox, cholera, yellow fever, diphtheria, erysipelas, puerperal fever and scarlet fever (?) Moist heat is far more effective, and it is demonstrated that ten minutes exposure to steam at a temperature of 230° Fah., will destroy all disease germs, including the most refractory spores.

In the absence of a suitable chamber for the use of dry heat, fumigation with sulphurous acid gas may be resorted to. The room in which disinfection is practiced should be hermetically closed to prevent the escape of the gas, and three pounds of sulphur should be burned in it for every 1000 cubic feet of air space. Expose the articles to be disinfected as freely as possible by hanging them up in the disinfecting chamber, and leave them at least twelve hours subjected to the action of the sulphurous acid gas.

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*The limitations with reference to the use of dry heat as a disinfectant are stated in the paper on Dry Heat.

Soiled mattresses, pillows, feather beds and other articles of this nature cannot be effectually disinfected by sulphur fumigation, owing to the fact that the gas does not penetrate to their interior in sufficient amount. For articles of this kind, and in general for articles of little value, which have been soiled by the discharges of the sick, destruction by fire will be advisable.

Disinfection of the Sick Room.—In the sick room no disinfectant can take the place of free ventilation and cleanliness. It is an axiom in sanitary science that *it is impracticable to disinfect an occupied apartment*, for the reason that disease germs are not destroyed by the presence in the atmosphere of any known disinfectant in respirable quantity. Bad odors may be neutralized, but this does not constitute disinfection in the sense in which the term is here used. These bad odors are, for the most part, an indication of want of cleanliness, or of proper ventilation; and it is better to turn contaminated air out of the window, or up the chimney, than to attempt to purify it by the use of volatile chemical agents, such as carbolic acid, chlorine, etc., which are all more or less offensive to the sick, and are useless so far as disinfection—properly so-called—is concerned.

When an apartment which has been occupied by a person sick with an infectious disease is vacated, it should be disinfected.

The object of disinfection in the sick room is, mainly, the destruction of infectious material attached to surfaces, or deposited as dust upon window-ledges, in crevices, etc. If the room has been properly cleansed and ventilated while still occupied by the sick person, and especially if it was stripped of carpets and unnecessary furniture at the outset of his attack, the difficulties of disinfection will be greatly reduced.

All surfaces should be thoroughly washed with *Standard Solution No.* 1, diluted with three parts of water, or with 1: 1000 solution of corrosive sublimate. *Standard Solution No.* 3, diluted in the proportion of four ounces to the gallon of water, may be used.

The walls and ceiling, if plastered, should be brushed over with one of these solutions and subsequently washed over with a lime wash.

Especial care must be taken to wash away all dust from window-ledges and other places where it may have settled, and to thoroughly cleanse crevices and out-of-the-way places. After this application of the disinfecting solution, and an interval of twenty-four hours or longer for free ventilation, the floors and wood-work should be well scrubbed with soap and hot water, and this should be followed by a second more prolonged exposure to fresh air, admitted through open doors and windows.

As an additional precaution, fumigation with sulphurous acid gas is to be recommended, especially for rooms which have been occupied by patients with small-pox, scarlet fever, diphtheria, typhus fever and yellow fever. But fumigation with sulphurous acid gas alone, as commonly practiced, cannot be relied upon for disinfection of the sick room and its contents, including bedding, furniture, infected clothing, etc., as is popularly believed.

When fumigation is practiced it should precede the general washing with a disinfecting solution, heretofore recommended.

To insure any results of value it will be necessary to close the apartment to be disinfected as completely as possible by stopping all apertures through which the gas might escape, and to burn not less than three pounds of sulphur for each thousand cubic feet of air-space in the room. To secure complete combustion of the sulphur it should be placed in powder or in small fragments, in a shallow iron pan, which should be set upon a couple of bricks in a tub partly filled with water, to guard against fire. The sulphur should be thoroughly moistened with alcohol before igniting it.

Disinfection of privy-vaults, cess-pools, etc. When the excreta (not previously disinfected) of patients with cholera or typhoid fever, have been thrown into a privy vault this is infected and disinfection should be resorted to as soon as the fact is discovered, or whenever there is reasonable suspicion that such is the case. It will be advisable to take the same precautions with reference to privy vaults into which the excreta of yellow-fever patients have been thrown, although we do not definitely know that this is infectious material.

The most trustworthy agent for this purpose is corrosive sublimate.

The amount used must be proportioned to the amount of material to be disinfected.

Use one pound of corrosive sublimate for every five hundred pounds (estimated) *of fecal matter contained in the vault.*

Solution No. 3, diluted with three quarts of water may be used. The diluted solution should be applied in the proportion of one gallon to every four gallons (estimated) of the contents of the vault.

All exposed portions of the vault, and the wood-work above it, should be thoroughly washed down with the disinfecting solution.

To keep a privy vault disinfected during the progress of an epidemic, sprinkle chloride of lime freely over the surface of its contents daily. Or if the odor of chlorine is objectionable, apply daily four or five gallons of *Standard Solution No.* 2, which should be made up by the barrel, and kept in a convenient location, for this purpose.

Disinfection of ingesta.—It is well established that cholera and typhoid fever are very frequently, and perhaps usually, transmitted through the medium of infected water or articles of food, and especially milk. Fortunately we have a simple means at hand for disinfecting such infected fluids. This consists in the application of heat. *The boiling temperature maintained for half an hour kills all known disease germs.* So far as the germs of cholera, yellow fever, and diphtheria are concerned, there is good reason to believe that a temperature considerably below the boiling point of water will destroy them. But in order to keep on the safe side it is best not to trust anything short of the boiling point (212° F.) when the object is to disinfect food or drink which is open to the suspicion of containing the germs of any infectious disease.

During the prevalence of an epidemic of cholera it is well to boil all water for drinking purposes. After boiling, the water may be filtered, if necessary to remove sediment, and then cooled with *pure* ice if desired.

Note.—Recent experiments made by Dr. Sternberg make it apparent that the complete sterilization of large masses of fecal matter in privy vaults would be a difficult and expensive undertaking, if not entirely impracticable. It is therefore of prime importance that infectious material should be destroyed before it is thrown into a receptacle of this kind. But it seems also important that during the prevalence of an epidemic the contents of privy vaults should be rendered unsuitable for the development of disease germs by the use of antiseptics, and that, so far as practicable, infectious material, not previously disinfected, should be destroyed *in situ*. A thorough disinfection of exposed surfaces soiled with the discharges of those who have recently frequented the place and of the exposed surface of the material in the vault is perhaps all that will be accomplished by the use of a solution of the bichloride of mercury as recommended. But it is doubtful whether more would be accomplished by the use of any other disinfectant, in reasonable quantity, and the superior potency of the bichloride as a germicide and antiseptic seems to the committee to justify the recommendation made with reference to its use in privy vaults. The liberal use of good disinfecting powder upon the surface of such masses of organic material is also to be commended, and for this purpose chloride of lime diluted with some inert substance is, perhaps, the most useful agent, on the score of economy and efficiency.

B.—Coast Defenses Against Asiatic Cholera.

COAST DEFENSES AGAINST ASIATIC CHOLERA.

Report of an Inspection of the Quarantines Maintained upon the Atlantic and Gulf Coasts from the St. Lawrence to the Rio Grande.

At the July, 1885, meeting of the Illinois State Board of Health the Secretary was instructed by a resolution of the Board "to inspect "the methods of quarantine of the Louisiana State Board of Health "and their actual operation at the stations below New Orleans; and "also to extend his inspection of quarantine methods and regulations "to such other ports and places as he may deem necessary in the "interests of the public health of the State, with especial reference "to the exclusion of Asiatic cholera and small-pox."

Such inspection was designed to supplement the action of the Board—inaugurated on receipt of the first information that Asiatic cholera had again invaded Europe, threatening another pandemic extension—and which action aimed to secure the best attainable sanitary condition of the territory under its immediate jurisdiction as one of the most important preparations against the spread of the disease within the State, should the contagion be introduced.

The geographical position of Illinois, within 24 to 48 hours of all the important ports on the Gulf and Atlantic coasts; its commercial relations; the extent and character of its means of communication, and the fact that fully one-half of the immigrants to this country come into or pass through the State—most of them remaining at least long enough to communicate contagion and under conditions favorable to such communication—obviously make the administration of these quarantines, with especial reference at this time to the exclusion of Asiatic cholera, a matter of sufficient importance to warrant the Board in securing all accessible information concerning them, the better to enable it to discharge its duty in connection with the protection of the lives and health of the citizens of the State.

In the present epoch of quarantine Illinois has a direct interest—chiefly commercial—in the exclusion of yellow fever from the Mississippi Valley; in the exclusion of vaccinally unprotected immigrants at the North Atlantic ports for the protection of her own territory from small-pox; and in the exclusion of Asiatic cholera generally, whether it threatens by direct importation from Europe or mediately through the West Indies, Mexico and South America. In brief, the State is concerned in the condition of the sanitary coast defenses from the mouth of the St. Lawrence to the mouth of the Rio Grande.

STATUS AND PROSPECTS AT THE CLOSE OF 1885.

It is hardly necessary to say that this country is not yet free from danger of an invasion of cholera simply because there is a cessation of alarming reports from Europe. Periods of remission, more or less complete, have characterized every epidemic spread of cholera since it first invaded the latter country. Until it entirely disappears from the European continent it will not do for us to relax our vigilance or to remit a single precaution. On the contrary, any delay in its march should be utilized to strengthen our defenses, and to perfect our precautionary system.

It must be remembered that the duration of a cholera invasion of Europe is not limited to two or three years. From the date of its first appearance in 1829–30 in Russia, to its final extinguishment in Italy, Austria and Germany, a period of seven years elapsed, during which, at one time or another, every one of the Continental countries was invaded—some of them more than once. Similarly in 1847, it again entered Russia at two points, and before its final disappearance in the Levant in the winter of 1855–56, it had traversed every part of the Continent and invaded Great Britain. In its last pandemic spread it appeared first at Malta in 1865, continued to ravage various parts of Europe until 1869, when there was a complete remission, only to break out again in 1871, and finally disappear in 1873.

With emigrants from every portion of Europe continuously landing upon our shores aud rapidly distributed throughout the interior, we will not be freed from this menace until every trace of the contagion in that country has vanished. At the close of the year the disease still remained in southern Spain, in France at Brest, in Italy near Venice, whence it had spread to the Austrian port of Trieste, and it has also effected a landing on the Western hemisphere, in the French penal colony of Cayenne. Thus far the disease has not extended in Europe to the regions whence our heaviest foreign immigration is derived, and to this fact is probably largely due our present immunity. When the German and Scandinavian countries and the British Islands become infected, if they should, our serious danger will then begin.

I am often asked "Do you expect to keep cholera out?" To which my reply is, that it is the duty of every sanitary authority to try to do so; to strengthen the weak places and perfect the strong; to utilize every possible resource; to secure the best attainable condition of his own immediate territory, and to put himself in a position to receive help from, or to extend help to others in fighting and excluding a common foe. We may not be able to entirely shut it out, but it will be a great achievement if its invasion be postponed and its spread limited; and greater still, if it is prevented from effecting a lodgment in this country.

If an outbreak at a port or locality can be deferred until toward cold weather, that ally would itself help us to extinguish it, and it might require a fresh importation the next season to start another. It is our duty to try to shut it out, and not fold our hands supinely and join in the condemnation of quarantine and preventive methods, which, in a great measure, are a new outgrowth since the Fever-Summer of 1878; which have received a great stimulus to development by the dread of cholera during the past two years; and which, so far as they have been tested in small-pox and yellow fever, give promise of success with the Asiatic pestilence.

With a sufficient number of National refuge stations, (there should be at least one on the Texas coast and one for New England, in addition to those on the Delaware Bay, in Hampton roads and on Sapelo Sound, and all of them should be as fully equipped as that at Ship Island,) with properly appointed quarantine establishments at the larger ports, and inspection stations at the smaller ones, the entire system to be mutually coöperative, governed by the same general rules and regulations, kept fully informed of public health conditions abroad by consular agents and intelligent medical inspectors when necessary, there would be no reason to apprehend the introduction of cholera or any other foreign pestilence.

QUARANTINE IN THE PAST.*

A brief summary of the origin and varying phases of quarantine in North America will be useful in this connection, as well for information as for emphasizing the distinction between the ancient and modern systems.

From the date of the earliest establishment of quarantine in this country down to the present time, its efficiency and the public interest in it have been fitful and spasmodic, dependent upon some real or fancied pressing emergency. The ravages of imported small-pox led to the passage of the first quarantine laws in 1698, and these were added to from time to time, and either vigorously enforced or more or less neglected as that disease increased or declined with the conditions of immigration and the slave-trade. The plague, through Mediterranean commerce, and outbreaks of yellow-fever at long intervals, also affected quarantine laws and practice until near the close of the last century.

For nearly thirty years, ending in 1791, the country was exempt from yellow-fever, and during this period little attention was paid to the subject. That exemption, it may be noted, was due to the suspension of direct commerce with the West Indies through the enforcement of the colonial acts by Great Britain; but after the Declaration of Independence, commerce with the West Indies and the Spanish Main was gradually re-established, and in 1791 began the yellow-fever epoch of quarantine following the increasing ravages of that pestilence in the principal seaports of the country, while small-pox gradually lost much of its importance after the introduction of vaccination by Jenner in 1799.

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* For further details of the history of quarantine reference may be made to the valuable papers contributed by Dr. Stephen Smith of New York, to the Bulletin and Reports of the National Board of Health.

To yellow fever, after the war of 1812, and taking the place of small-pox as a quarantinable disease, there was added typhus or ship fever, and this disease—aggravated and often developed during the long voyages in sailing vessels with crowded steerages and a gross neglect of hygienic observances—continued to increase in frequency and severity with the increase of immigration.

In 1832, Asiatic cholera was added to ship fever and yellow fever, and although this new plague has only affected quarantine by its four epidemic visitations, separated by long intervals throughout more than half a century, it marks a new epoch in quarantine. Meanwhile, the yellow-fever zone in North America had become practically contracted to south of Philadelphia—once the most terribly scourged of American cities—and ship fever had lost much of its significance through the substitution of steamships for sailing vessels, and the enactment and enforcement, both by this country and foreign countries, of laws for the prevention of overcrowding and for the protection of the health of immigrants.

With the decline of ship fever, small-pox again began to increase in consequence of a neglect of vaccination or its imperfect performance, and this disease again affected the public health more or less severely as the tide of immigration swelled or ebbed.

Within the past quarter of a century small-pox has more than once assumed epidemic proportions, as in the period from 1868 to 1873 and from 1879 to 1883; yellow fever has prevailed locally from time to time, and as an epidemic in the Mississippi Valley in 1873, 1878 and 1879; cholera spread throughout the country in 1866–67, and invaded nineteen States west of the Alleghenies in 1873; and these three diseases with their varying manifestations—occasional long intermissions, followed by violent and disastrous epidemic outbreaks—have dominated the quarantine question during this epoch.

In the few years immediately preceding this period some progress was made in an organized attempt to reform the abuses of quarantine, and to frame a system in accord with the increasing knowledge of epidemic diseases—one which should be freed from the unnecessary hardships and rigors of quarantines, revived or improvised in the face of existing danger, and too often inspired and enforced by an unreasoning dread and terror—similar to those witnessed in southern Europe during the past two years.

This attempt was inaugurated by Dr. Wilson Jewell, of Philadelphia, one of the foremost sanitarians of his day, and who, in 1856, proposed the establishment of "a uniform code of regulations, operating alike in all respects, and offering the least resistance to an "active commerce, and with a humane regard for the health of the "passengers and crews and the comfort of the sick on board of all vessels detained at quarantine stations." A "Quarantine Sanitary Convention" was held in 1857 for the purpose indicated, and some progress was made during its subsequent sessions, when the outbreak of the Civil War put an end to the movement.

It may be here remarked, in passing, that these few quoted lines indicate the essential features of the quarantine of those days. They were primarily quarantines of detention or exclusion, inconsistent with an "active commerce;" the "health of the passengers and crews, and the comfort of the sick," were matters of secondary importance, and the enforcement of sanitary measures was confined to proceedings of a most primitive character when such measures were attempted at all.

Little attention was paid to disinfection, purification, isolation of the sick and the other measures which now receive most attention. The regulations entailed great personal sufferings and hardships, and vexatious delays and losses to travel and traffic, while they generally failed to protect the country from the introduction of the exotic diseases. It is not to be wondered at that "quarantine" has received so much condemnation.

COAST DEFENSES SHOULD BE UNDER NATIONAL CONTROL.

During all this time, from the earliest date to the present, the control of quarantine has remained entirely under the jurisdiction of State and local authorities, except during the brief period in which the National Board of Health exercised its limited quarantine powers under the act of 1878, and which expired in 1882. It is this absence of adequate National health authority and legislation, and the fact that in such absence the maritime quarantines are controlled and administered by State and local authorities—resulting in diverse, and frequently conflicting, regulations and requirements and, of necessity, in a tendency to limit precautions to their own individual interests, commercial as well as sanitary—which throw upon interior States the responsibility of fully informing themselves of the strength or weakness of these outposts, in order to know where to anticipate danger and how to make their own preparations to meet it.

At its last session, Congress appointed a commission to examine and report upon the measures necessary for the defense of our seacoast against a foreign armed enemy, and a distinguished publicist and statesman, Mr. Tilden, has recently urged this as a paramount duty of the Government. Millions of dollars have already been expended for such defense, and millions more will probably be forthcoming to meet this possible contingency.

But the assaults of foreign contagion are not a contingency. They are actual events, and during the past twenty years they have cost the country an aggregate loss of life only less than that of the great war immediately preceding.

Every sanitarian and many of our leading statesmen know that this actual and ever-recurring loss is wholly and entirely preventable by the expenditure of a sum which sinks into utter insignificance before the millions which will be appropriated for the protection of our coasts against a possible future danger. Thus far, however, neither sanitarian nor statesman has been able to overcome the petty jealousies of individuals, communities, and of States themselves, so as to secure even the legislation necessary to remedy the present confusion.

Such sanitary measures as are now enforced by the National government are based upon authority derived from the act of April 29, 1878, to prevent the introduction of contagious or infectious diseases into the United States. But the late Secretary of State, Mr. Frelinghuysen, and the late Secretary of the Treasury, Mr. Folger, are reported to have both decided that the act in question, having been repealed by the act of June 2, 1879, could not be revived by the expiration of this latter act.[*] The point would have less practical importance if the authority which assumes to act under it can and will furnish the country the necessary protection in the present emergency.

Practical sanitary executives are less concerned, just now, as to who exercises the authority and by what right, than in the questions: Is the authority wisely exercised? Is it sufficient? May we rely upon it implicitly? If not, to what extent, and how can we remedy its deficiencies?

It is by no means meant by this that it would not be better that there should be a properly organized National health department, acting under clear and undisputed legal authority, and supplied with funds adequate to its legitimate necessities. The present status of National sanitary legislation and of the National sanitary executive is admittedly defective and unsatisfactory.

The history of the recent attempts to control the disinfection of rags; the complications at the port of New York concerning consular bills of health; the strictures upon the inspection service maintained along the coast, and in the matter of inspections on the Canadian frontier during the recent small-pox epidemic; the complaints of various boards of health that they are directed to look to the Associated Press for information and warning concerning threatened danger from abroad to their ports and territory[†]—and many other similar matters point to the necessity for a well-considered and radical revision of existing National sanitary legislation.

Consular bills of health, which are now as a rule almost worthless, might be made of the greatest value; and these, together with the prompt publication of direct and official information concerning the sanitary status of foreign ports—such information to be secured by competent persons—are essential to the prevention of the introduction of foreign contagion. Obviously such measures can be regulated, controlled and provided only by the National government.

POSSIBILITIES OF PRESENT COAST DEFENSES.

Nevertheless, I am more than ever convinced, since completing this inspection, that Asiatic cholera, as well as small-pox and yellow fever, may be effectually excluded from the United States by an intelligent use of the agencies still at our command. This is not a matter of speculation or theory. A great advance has been made since 1878.

A quarantine of exclusion of these three diseases is now a matter of certainty, depending upon prompt notification of threatened danger; vigilant supervision over commercial intercourse with infected localities; inspection of all immigrants and the enforcement of their vaccinal protection; sanitation and purification of infected vessels and cargoes; isolation of those sick with these diseases, the surveillance of suspects during the periods of incubation; and the employment of other well-defined preventive and precautionary measures which now constitute the modern sanitary practice as applied to maritime quarantine.

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[*] The Supervising Surgeon General of the Marine Hospital service has recently contradicted this report.

[†] Both for the ILLINOIS STATE BOARD OF HEALTH as its Secretary, and for the Sanitary Council of the Mississippi Valley as its executive officer, I have attempted to secure such information—asking for copies of consular reports, or the essential facts contained therein, as to the existence of epidemic contagious diseases at ports in commercial relation with this country and with especial reference to Asiatic cholera; also for the addresses of medical inspectors stationed at foreign ports, etc. The Secretary of State in acknowledging the receipt of my requests, stated that they had been referred to the Treasury Department, informing me in effect, that charge of all matters pertaining to the public health was assumed by that branch of the National government. No reply has yet been received from the Treasury Department nor from any of its bureaus.

Cholera has never yet been kept out of this country after becoming epidemic in Europe, and I admit that quarantines, as conducted in that country, have proved ineffectual to control the spread of the disease. But the conditions which obtain here are radically different from those in Europe. In that country, as I have said elsewhere,* a narrow strait or sea, a river, a mountain chain, or merely a territorial boundary line, with its custom-houses and passport system, defines the limits to be guarded, and forms the only physical barrier between the quarantiner and the quarantined.

Here the whole width of the Atlantic intervenes between us and the infected country. There, cordons and quarantines mean privation, misery and suffering, and, ultimately, starvation. Here the Nation could exist unaffected in all her material interests by a quarantine whose period of detention is limited to the time necessary to destroy contagion through the rapid processes of modern disinfection and sanitation. There, it may be true, as alleged, that a quarantine of exclusion is impossible of execution, and that the attempt to maintain it does more harm than good, in leading to numberless contraband practices by which the disease may be introduced in unsuspected ways.

None of this is true when applied to the exclusion of Asiatic cholera from this country; while to accept the statements unquestioned would cause vigilance to be relaxed, would invite contagion to our shores unimpeded, and would finally throw upon individual communities the burden and the responsibility of fighting the disease at an immense disadvantage—that is, of fighting it at home and from many quarters, instead of on the outer lines and from only one direction.

The outer lines, even with some defects and weak places, I believe to be even now sufficiently strong to keep out the disease if proper vigilance and thoroughness be exercised, if all the faculties be utilized and if timely notification of threatened danger be given by the National government.

The next year or two, however, will furnish a tolerably conclusive test of the efficiency of quarantine to exclude the pestilence from this country.

IMMEDIATE RESULTS OF THE INSPECTION.

During the progress of the inspection it was observed that the comparisons instituted and the information furnished prompted

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*Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America: An Address delivered at the opening of the National Conference of State Boards of Health, St. Louis, Mo., October 13-15, 1884. *Vide* Seventh Annual Report ILLINOIS STATE BOARD OF HEALTH; pp. 83-95.

quarantine officers and health authorities to avail themselves of facilities previously overlooked or neglected, and to put themselves in communication with each other for purposes of mutual coöperation and support. At many of the stations those in charge invited criticism and suggestions, while others would not rest satisfied until their facilities and appliances were made more complete. Suggested improvements have already been made in many instances and others will doubtless be secured.

Not the least among the good results which are already perceptible is the recognition of the fact that the administration of quarantine at a given port is not a purely local measure; but that the country back of it, and communities distant in space but in close proximity in point of time, are also interested. Since States and communities continue to control maritime quarantine, and in may instances are jealous even of a suggestion of Federal interference, it is right that they should recognize the full import of their obligations.

Nor should they overlook the fact that these distant communities have the power to both help and punish. Illinois, for example, by recently refusing entrance to immigrants coming through ports which were lax in enforcing vaccinal protection, furnished a powerful argument to the quarantine officers at such ports whereby they secured compliance with their requirements by the steamship companies.

This reflex action may be carried still further. If a port or locality should notoriously disregard the precautions necessary to prevent the access of cholera, it would be an obvious duty of self-protection not only to exclude immigrants but to cut off all intercourse with such port or locality. With the danger of such a contingency clearly recognized the authorities would not only be apt to exercise proper vigilance, but all transportation and commercial agencies—railroads and steamships—would become quarantine aids. Captains and officers would have an additional incentive for keeping their vessels in good sanitary condition and for promptly reporting cases of suspicious sickness during the voyage, if it came to be understood that failure in these respects would be followed by loss of trade and employment.

One obvious advantage which may be expected to follow the publication of this report, will be the notification to all interested of the weak places in our line of coast defenses, and this will naturally insure greater care and vigilance at such places and greater watchfulness of them by others.

To some places which the Secretary was unable, from want of time and pressure of other duties, to personally visit and inspect, the following series of questions was addressed, and subsequent correspondence elicited the necessary information in such cases:

1. What are the quarantine facilities of your port? Please furnish copy of laws and ordinances, and of rules and regulations.
2. How far from the city is the quarantine station.
3. Is the station out of the track of commerce or travel?
4. How far from the city are the vessels inspected?
5. How are vessels, cargoes and persons disinfected and purified?

6. What are the periods of detention and seasons?
7. How would a cholera-infected vessel be treated?
8. Under what circumstances would vessels be sent to the nearest refuge station?

Atlantic and Gulf Coast Quarantines.

Location of Stations, Equipment, Powers and Authority, Rules and Regulations Methods, etc., etc., from Canada to Texas, Inclusive.

Arranged Geographically.

Canada:

On the 9th and 10th of October, I made an inspection of the Grosse Isle quarantine establishment, on the St. Lawrence river, about 29 miles below Quebec. Dr. F. Montizambert, Chief Quarantine Officer of the Dominion, telegraphed me on the 9th that he would send his yacht to meet me at St. Thomas, a station on the Inter-Colonial railway, about 30 miles from Quebec. We left the wharf at this place about 4:40 p. m., but owing to head winds were unable to use the sails, and the men had a weary pull of two hours and a half to make the five miles to the station against the strong current and ebb tide. As this boat is the sole means which the station possesses for boarding a vessel for inspection purposes, I became quite convinced that a steam yacht or launch is a necessity in such a swift current and with such high tides as obtain in this stream, the channel being fully two and one-half miles from the station.

The Grosse Isle quarantine station is on an island about one and one-half miles long, divided into Sick, Central and Healthy divisions. In the Sick Division are the hospitals with the necessary adjuncts. There is a two-story brick hospital, with 100 beds, including some in private wards for cabin passengers, ship's officers, etc.; and a one-story wooden shed with about seventy beds. There are also ample facilities for disinfection, and for the purification of clothing, etc. In the Central Division are the quarantine officer's and chaplain's residences, and quarters for the employés, eight in number, embracing a hospital steward, a sergeant of police (who speaks four languages), a baker and the boat's crew. From this point, ships that stop opposite the station for inspection are gone out to. In the Healthy Division (a mile and a quarter from the hospital), are the houses of detention with accommodations for about 2,000 persons; a large wash-house; a bakery; a furnace for hot-air disinfection; rooms especially arranged for fumigation; chapels, police barracks, etc. There is telephonic communication between the different divisions of the station and telegraphic to Quebec.

The disinfectants employed are chloride of lime, corrosive sublimate and sulphurous-acid gas. Labarraque's solution is also used for the sponging and washing of patients and attendants, and permanganate of potash for coloring dangerous solutions; chloride of lime in solution, four ounces to the gallon, is used in the vessels which receive the discharges of the sick. Infected clothing and bedding are steeped at once, in the wards, in a weaker solution of chloride of lime or of corrosive sublimate, and then boiled before being sent to the wash. The dry-heat oven is rarely used; what can not be steeped for at least two hours, and then boiled for at least half an hour, is generally burned, in the absence of a steam disinfector. For fumigation, sulphurous-acid gas is used in closed apartments either from burning the crude sulphur, or from the copper reservoirs in which it has been stored under pressure, and which are obtained from New York.

Should a vessel arrive here with cholera, Dr. Montizambert purposes to treat her as follows: Land the sick and their attendants directly at the Sick Division, with everything suspected connected with them. Land all the steerage passengers and their effects, and place them in the detention houses at the Healthy Division.

Open all windsails, hatches, portholes, etc., on the vessel; have the bilge water repeatedly pumped out or changed; supply unquestionable drinking water to all. All the luggage of the cabin passengers and crew to be opened out on board; all body and bed linen to be steeped in solution of corrosive sublimate; and other effects, with the opened trunks, etc., to be repeatedly fumigated with sulphurous-acid gas in closed apartments. The vessel in all attainable parts, and notably the cabins, steerage and forecastle, to be scrubbed with solution of corrosive sublimate and fumigated.

The cargo to be opened up in as many places as possible, and then, the hatches, etc., being closed, the compressed sulphur dioxide to be poured in amongst it from the reservoirs. Should it seem necessary, the cargo would be landed to allow of its more detailed disinfection, and the more satisfactory treatment by washing, rinsing with corrosive-sublimate solution and fumigation of the empty vessel.

While the vessel and those on board are thus being attended to the steerage passengers and their effects are washed and disinfected on shore at the Healthy Division. The attendants, being always amongst them, would report by telephone at once any slightest appearance of illness, and in addition a regular medical inspection is made twice daily of all those under detention, viz: at 9 a. m. and 4 p. m. each day. Any one showing even doubtful symptoms is at once removed from amongst the others, placed in a ward of observation and thence returned to the Healthy Division or taken to the hospital as may be required. Subsequent to completed process of disinfection, the vessel, passengers and crew would be detained for eight clear days after the occurrence of the last cholera case before being admitted to pratique.

The process thus described is carried out with any vessel that arrives with an infectious disease diffused amongst its passengers, except that the vessel is allowed to proceed after disinfection without further detention. With a cholera ship, however, application is made by telegraph for authority to detain the vessel and all on board, and it would probably be accorded.

Grosse Isle was for a long while one of the most important quarantine stations on the continent. Over 15,000 victims of cholera and ship fever are buried on the island. It was established during the sailing vessel period when,—as the result of the long voyage, crowded steerage and ignorance or disregard of all sanitary and hygienic observances—almost every arrival was more or less infected. For the requirements of the period, it was probably as well adapted and as completely equipped as any establishment in the world. The vessels then in use could easily approach its wharf and receive such treatment as was at that time considered necessary.

But with the advent of the huge ocean steamships—with their great draught, short passages, improved accommodations, and imperative demand for "quick dispatch"—the station has lost much of its importance. One set of conditions has largely obviated its necessity as a barrier against the introduction of epidemic contagion, while another set has created a necessity for improvements and modifications which have not been made. As a consequence there is less attention paid to the maintenance of the station and to the enforcement of the regulations. During the season up to the 9th of October, the date of my inspection, only 32 vessels out of a total of 420 arrivals had stopped at the station for examination.

My observations and study of the enactments suggest the following—having regard on the one hand to the efficiency of the service, and on the other to the interests of commerce—as among the more important matters requiring attention, if this station is to be relied upon, to prevent an invasion of cholera or other grave epidemic contagious disease via the St. Lawrence river, remembering that cholera was introduced into the country by this route in 1832:

1. The boarding at Rimouski and inspection of the mail steamers is an absolute necessity, and all foreign vessels bound up should be inspected at or below Gross Isle, so that if the vessel needs to be detained at quarantine the fact can be promptly ascertained, and if healthy and free from danger of conveying infection or contagion, she may proceed without unnecessary delay.
2. The revision of the regulations so as to secure the compulsory sending back to quarantine of any vessel that passes up to Quebec without having been inspected, no vessel being allowed to enter the custom house at Quebec or Montreal without first exhibiting the certificate of the inspecting medical officer.
3. Better facilities for boarding vessels at the quarantine station are required as already suggested.
4. The adoption of some of the more modern appliances for disinfection, as for example, a steam disinfector for rags, textile fabrics, etc., or the methods employed at the Mississippi quarantine of the Louisiana State Board of Health.
5. The vaccinal protection of the immigrants should be enforced.
6. The addition of another medical officer to the staff of the station.
7. Should it be impracticable to thoroughly disinfect a vessel or a cargo, wharfage facilities, in addition to those existing at present, should be provided for vessels of the heaviest draft that navigate the St. Lawrence.

The modifications herein briefly indicated, with the facilities already possessed and the natural advantages fully realized, would, to a great extent, remove the apprehension of cholera finding its way into the country through the St. Lawrence, and would materially obviate the necessity of restrictions over traffic and travel between the Dominion and the United States. Sweeping and onerous requirements, entailing unnecessary expense and delay—especially if such expense and delay be due to inadequate equipment and appliances—defeat the very object of quarantine and provoke avoidable hostility and opposition, or lead to neglect and indifference.

In order to make a quarantine effective as a safeguard to the public health, nothing should be required which is not clearly necessary; the facilities and regulations should be such as to insure a minimum of interference and inconvenience consistent with the end; and every necessary requirement should be rigidly, continuously and impartially enforced.

The only diseases requiring attention at the present time are cholera and small-pox. Up to the time of my visit the vaccinal protection of immigrants was not enforced, and small-pox had repeatedly been introduced into Illinois and the Northwest by unvaccinated immigrants coming through the Dominion. Since my inspection no unprotected immigrant is allowed to land, and under the present regulations the risk of imported small-pox contagion, via the St. Lawrence, is very materially reduced. A steam yacht has also been ordered to take the place of the boat for boarding vessels at Grosse Isle. Upon this will be placed the modern appliances for disinfection above indicated.

During my inspection I was urged to make my criticisms and suggestions direct to the quarantine officer, and subsequently the Dominion government invited me to communicate the same to them.*

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*Owing to the fact that small-pox was introduced into the Dominion of Canada, and the States of Michigan and Illinois, via the St. Lawrence river, during the months of April and May, 1886, Dr. Bryce, Secretary of the Ontario Board of Health, made an inspection of the quarantine methods on the St Lawrence, when he ascertained that some of the recommendations made in this report had not been fully carried out by the Dominion Government. The Ontario Board of Health called the attention of the Government to the same, with the following result:

QUARANTINE.

SUPPLEMENTARY REGULATIONS ISSUED FOR THE DOMINION.

OTTAWA, Aug. 7.—The following is the full text of the Order-in-Council providing for supplementary quarantine regulations:—

Whereas our Governor-in-Council, in view of the existence of the disease of Asiatic cholera in parts of the Continent of Europe, and the disease of small-pox in the United Kingdom, deems it advisable to adopt regulations to prevent the introduction of the same into Canada, and has been pleased to order that a proclamation do issue putting in force the following regulations, supplementary to the quarantine regulations established by the proclamation of May twenty-third, in the year of Our Lord, one thousand eight hundred and sixty-eight, and January twenty-first, in the year of Our Lord, one thousand eight hundred and seventy-three, that is to say:—

FOR STEAMSHIPS AND SAILING VESSELS BY THE ST. LAWRENCE.

1. Every steamship and sailing vessel from any port outside of Canada coming to Canada by way of the St. Lawrence shall be inspected by a duly appointed quarantine medical officer or officers before passing Grosse Isle, and shall not proceed or be allowed to proceed on her voyage until she receives a clean bill of health.

2. Each of the weekly steamships conveying her Majesty's mails shall be met and inspected by a quarantine medical officer at the Point of Rimouski, and a clean bill of health from such officer shall be equivalent to a clean bill of health granted by the quarantine officer at Grosse Isle, such mail vessels being amenable in all other respects to the quarantine regulations.

In addition to the quarantine on the St. Lawrence there are two other quarantine stations maintained by the Dominion government—one on Partridge island, for the port of St. Johns, N. B., and one on Lawlor's island, for the port of Halifax. These are subject to the same enactments as apply to the Dominion generally.

Dr. W. W. Wickwire, Inspecting Physician for the port of Halifax, writes me, under date November 20th:

The quarantine station is on an island in the harbor of Halifax, about three and a half miles from the city. This island is owned by the Dominion government, and is used entirely as a quarantine station—the only persons living there permanently are the steward and his family. The island (Lawlor's) has an area of about 150 acres. There are now hospital buildings affording accommodations for about 100 persons, but additional buildings could easily and rapidly be constructed.

The quarantine anchorage, where inspection takes place, is about three-quarters of a mile from the city. Pilots are required to bring

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3. No passenger or any other person shall be allowed to land from any mail steamship at Rimouski until declared free from contagious disease by the quarantine medical officer.

4. Any person or persons ill with cholera, small-pox or any other contagious disease, as defined in the quarantine regulations under the proclamation of May 23, 1868, shall be landed at Grosse Isle for treatment, and the vessel disinfected and allowed to proceed or be detained in such manner as may be deemed expedient by the medical superintendent for the protection of the public health, under the provisions of the said quarantine regulations.

5. No person shall be allowed to land from any steamship or sailing vessel without furnishing evidence to the satisfaction of the Quarantine Medical Officer of having been vaccinated within the seven previous years, nor any person not vaccinated to the satisfaction of the Quarantine Medical Officer.

6. Any unvaccinated person arriving at Rimouski or Grosse Isle shall be vaccinated by such Quarantine Medical Officer, or in the event of refusal shall be landed at Grosse Isle subject to a quarantine of observation.

7. The Quarantine Medical Officer at Grosse Isle or Rimouski shall examine any officer or surgeon or medical man of any steamship or sailing vessel, under oath, touching the state of health of such ship or vessel and of every person on board, in such form as shall be prescribed by the Minister of Agriculture.

8. Every steamship or sailing vessel arriving with infectious disease shall be liable to be detained at the quarantine station for disinfection, together with its cargo and passengers and crew, but every steamship or vessel provided with one isolated hospital for men, and another for women, on the upper deck, ventilated from above, and not by the door only, may, in the discretion of the Quarantine Medical Officer, if he is furnished with satisfactory evidence that such hospitals have been promptly and intelligently made use of, be allowed to proceed after the landing of the sick and the disinfection of such hospitals; any vessel, however, arriving with infectious disease, without having such special isolated and ventilated hospitals, shall be liable to be detained for disinfection at the quarantine station.

9. The master of every steamship or sailing vessel liable to quarantine shall produce a certificate of such inspection, and a clean bill of health, before being allowed to make a customs entry at the ports of Quebec or Montreal.

10. The inspecting physician at Quebec shall visit every steamship and sailing vessel from any port outside of Canada arriving at that port, and he shall send back to Grosse Isle any steamship or sailing vessel having on board contagious disease in contravention of the foregoing regulations.

FOR ALL OTHER ORGANIZED QUARANTINE PORTS OF THE DOMINION.

11. Every steam and sailing vessel from any port outside of Canada arriving at any regularly organized quarantine ports (having quarantine stations), that is to say: At Halifax, Picton, or Hawkesbury, or Sydney (Cape Breton), in the Province of Nova Scotia; or St. John, or the harbor of Miramichi, in the Province of New Brunswick; or Charlottetown, in the Province of Prince Edward Island; or Victoria, in the Province of British Columbia, shall be subject, in so far as they can be made to apply, to the foregoing regulations relating to Grosse Isle, as respects inspection, by the Quarantine Medical Officers of the said several ports or harbors, before being allowed to make a customs entry; and any vessel which it shall be considered necessary to detain shall be dealt with in accordance with the quarantine regulations of 1868, aforesaid.

FOR ALL PORTS UNDER QUARANTINE DIRECTIONS OF COLLECTOR OF CUSTOMS.

12. At every other port in Canada, at which there is not a regularly organized quarantine station, and at which the Collector of Customs is authorized by the Act 35 Victoria, chapter 27, entitled "An Act relating to Quarantine," and the proclamation made in pursuance thereof, dated January 21, 1874, to act as quarantine officer for putting into effect

all vessels into this anchorage ground if there be any disease whatever on board, and there remain until inspected.

Maine :

The Navy Department has been in the habit of sending yellow-fever infected vessels to the Navy Yard at Portsmouth, New Hampshire, but owing to protests by the citizens of that city, against such action, Dr. F. M. Gunnell, Surgeon-General, under authority of the Secretary of the Navy, in 1884, established a refuge station on Widow's Island, in Penobscot Bay.

A temporary hospital and quarters for officers have been built, and an artesian well bored, from which an abundant supply of water has been obtained at the depth of sixty feet. The island is convenient of access from the sea, has excellent anchorage protected from storm winds, and affords a safe and desirable refuge for infected vessels coming north from the West Indies or Gulf of Mexico.

The Surgeon-General recommends in his report bearing date October 1, 1885, that permanent buildings be erected at this place; and a strongly constructed wharf, to facilitate the landing of heavy stores from vessels in order to accomplish a thorough fumigation and disinfection. With the exception of this station there are no

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such regulations, the Collector of Customs shall, in the case of any steamer or sailing vessel arriving from the Continent of Europe or the United Kingdom, cause a medical inspection to be made of any such vessel, and shall not grant a customs entry, except upon the production of a clean bill of health after such inspection.

13. In the event of any contagious disease being found on any steam or sailing vessel arriving at any port which is under quarantine direction of a Collector of Customs, such cases shall, in all respects, be dealt with in the manner prescribed in the quarantine regulations of January 21, 1873, aforesaid, applying to such ports, supplemented by the foregoing regulations in so far as they can be made to apply.

SIGNALS FOR SICKNESS TO BE DISPLAYED AT ALL PORTS.

14. Every steam or sailing vessel from a port outside of Canada having any contagious disease on board, shall, on arriving at any port in Canada, display a flag in the fore-shrouds, or a yellow flag at the fore, for a distinctive quarantine signal, in order to inform the Quarantine Officer, or Collector of Customs acting as such, that he is to receive the sick from such vessel, or to take such other steps with respect to such vessel as are prescribed by the quarantine regulations aforesaid, or requiring quarantine inspection at Grosse Isle.

HOW RAGS ARE TO BE DEALT WITH.

15. Rags shall not be allowed to land at any port in Canada, except at a port which is one of the regularly organized quarantine stations hereinbefore specified in section 11.

Rags shall not be allowed to enter or pass beyond the limits of the quarantine grounds until disinfected by such process or processes as shall be ordered by the Minister of Agriculture, or unless specially directed by the Quarantine Medical Officer,

The definitions in the proclamations of 1883 and 1884, respecting rags, continued in force by the order-in-Council of October the 18th, 1884, are withdrawn.

HOURS OF INSPECTION.

16. The hours during which quarantine inspection, the mail steamships excepted, shall take place at any quarantine station or any port in Canada shall be between sunrise and sunset.

PENALTIES FOR PILOTS AND ALL OFFICERS AND MASTERS OF VESSELS.

17. Every pilot shall be furnished with printed copies of these regulations, one of which it shall be his duty to hand to the master of every steam and sailing vessel coming from a port outside of Canada, under a penalty not exceeding two hundred dollars.

18. Every Collector of Customs, officer or other person charged with putting into effect or having any duties in connection with the foregoing regulations shall be liable to a penalty not exceeding four hundred dollars and imprisonment until such penalty is paid for any contravention of such regulations, or for omission or neglect of duty in relation to them.

19. Every master of a steam or sailing vessel shall be liable to a penalty not exceeding four hundred dollars, and to imprisonment until such penalty is paid for any contravention of any of the foregoing regulations, and such vessel shall be held liable for any pecuniary penalty imposed on the master.

quarantine facilities along the coast of Maine, and this is under the control of the Navy Department. Why should it not be utilized as a refuge station, in case cholera is found on vessels in this neighborhood?

I visited Portland in August last, on account of the importance it possesses in this connection, owing to its being the winter port of the Grand Trunk railway, and thus receiving a considerable immigrant travel during the winter months. I found that inspections were made only upon the arrival of vessels at the wharf, when they are boarded by the city physician.

If contagious disease, such as small-pox, be found on a vessel, it would be ordered to the quarantine grounds about two miles from the city; those on board would be vaccinated, and such disinfection enforced as might be practicable under the circumstances.

The attention of the mayor, and subsequently the State Board of Health, was called to the possibility of cholera being introduced by immigrants during the winter months.

New Hampshire:

Dr. Irving A. Watson, Secretary of the New Hampshire State Board of Health, writes, under date of October 3, 1885:

Except under unusual liability to infection, no quarantine is maintained at Portsmouth. The only vessels that come into the harbor of Portsmouth are coasters from American ports, and a few vessels now and then from the British Provinces (New Brunswick and Nova Scotia.) During the present month but one vessel has entered the port outside of coasters from American ports, and that was a vessel from New Brunswick loaded with railroad ties. The very small amount of shipping that comes into Portsmouth outside of our own coast trade, which is very small, consists of now and then a vessel loaded with railroad ties from the Provinces, and salt from Turk's island. There is no passenger traffic whatever.

The quarantine laws of the State, as well as the city ordinances of Portsmouth, are quite strict, and in the very few instances of contagious diseases that have been found on board of vessels coming into the harbor of Portsmouth, the masters of such vessels have notified the pilots and a medical officer has been sent to them and suitable quarantine established.

Formerly there was a quarantine station about a mile down the harbor, which was established and used exclusively by the government; it now exists unoccupied. There has been no occasion for the disinfection of cargoes for many years, I think. The government has sent one or two vessels, among which was the Plymouth, up to this port to freeze out the yellow fever.

I do not know of a single instance in which disinfection of vessels, crews and cargoes has been required. I have recently investigated the condition of affairs at this port, and do not find it necessary at the present time to establish a quarantine station. There is not the least probability of small-pox being brought to Portsmouth from Montreal and vicinity, or from the Provinces by water.

On the other hand we have no infected cities to fear along our own coast, and as no vessels arrive from foreign ports, other than those mentioned above, there seems to be no demand whatever for a quarantine service. Should any circumstance arise that would make it necessary to establish such a service at Portsmouth, we would do so.

Massachusetts:

In company with Dr. S. H. Durgin, Chairman, and Mr. George F. Babbitt, a member of the Boston Board of Health, I made a visit of inspection to the Boston quarantine establishment on the 30th of August last. This is situated on Gallop's island, about seven miles from the city, and comprises abundant hospital accommodations for contagious diseases in two buildings; a large storehouse for infected cargoes, connected with deep water by a suitable wharf and tramways; and upon another wharf is a building for disinfecting clothing, baggage, etc. The island is about twelve acres in extent, and vessels may lie at its wharves entirely out of the track of commerce. The arrangement of the buildings, etc., is compact and workmanlike, and everything was found in good order.

The boarding station is at Deer island, about a mile and a half from quarantine, and the port physician resides at this station during the entire year. The quarantine steamer, Samuel Little, is also kept at the Deer island station ready for boarding vessels, conveying the sick from vessels to the hospitals, etc. Since my inspection this vessel, built for the quarantine service thirteen years ago, has been ordered to be replaced by a new one with important improvements and better facilities for disinfection.

The regulations require the port physician in quarantine to visit and inspect all vessels arriving in the harbor between June and November from any foreign port, except Canada and the Provinces, and from any domestic port south of Virginia. No vessel which has had on board, during her last voyage, any sickness of a contagious or doubtful character, shall pass quarantine without inspection and consent of the port physician. It is also provided by regulation that no vessel shall be allowed to bring any sickness of a doubtful or contagious character past quarantine during any season of the year.

Every facility is provided for the speedy and comfortable transfer and the subsequent care of such persons as may arrive by vessels suffering from contagious or infectious diseases. The personnel of the quarantine establishment consists of two physicians and the necessary employes. The physicians are employed during the whole year. When quarantine duties do not demand their attention they are occupied in the city institutions on Deer island.

In the large storehouse there is an apartment for disinfecting rags and other articles by the sulphurous-acid process, and there is also a large amount of storage capacity. The disinfection of clothing, personal baggage, etc., is effected by the steam process. The super-heated steam is supplied by the quarantine steamer. For my observation the steam was admitted into the apartment provided for this purpose, and in a few minutes the temperature was raised to 220° F., at which point it was evident it could be maintained as long as desired.

All immigrants are examined on arrival, and are vaccinated or revaccinated if not protected by decidedly recent vaccination or revaccination. Careful scrutiny is bestowed on all persons and goods arriving by vessel, and such cargoes, vessels and personal baggage as seem to require it are thoroughly disinfected as above indicated.

The administration of quarantine at Boston has received for the last nineteen years the direct supervision of the present Chairman of the City Board of Health, and the access of cholera through this port is hardly likely to occur. During this period I have been able to trace small-pox cases to Boston very rarely, and none for several years recently. The methods pursued at this port demonstrate that the disease may be excluded.

Rhode Island:

The quarantine regulations of the port of Providence are under control of the Board of Aldermen, who appoint annually a health officer of quarantine, to execute such orders as said board may from time to time prescribe relating to quarantine. Dr. Charles V. Chapin, Superintendent of the Health Department of Providence, writes "that all vessels subject to quarantine are stopped about one mile below the city. Vessels are inspected by the health officer before they are allowed to come to the wharf, or have any communication with the shore.

"Our foreign commerce is very small, mostly with St. John, N. B., and with the West Indies. The only European arrivals we have are a few Italian vessels with sulphur.

"If any vessel was found to be infected, I would have her thoroughly cleansed and disinfected with sulphur or chlorine or both. Baggage and clothing of crew could be treated on shore at the small-pox hospital grounds, which are situated near quarantine. Our channel is so narrow that it is impossible for vessels to anchor very far from the line of travel."

Connecticut:

The quarantine facilities of New Haven, the most important Connecticut port, are described by Dr. Lindsley, Secretary of the State Board of Health, as not entirely satisfactory. No special preparation exists for the proper management of vessels subject to quarantine, excepting that the Board of Health of New Haven is clothed with full authority to subject any such vessel to such regulations for the protection of New Haven as said Board may deem necessary.

The vessel (and cargo, if necessary,) would be disinfected by the fumes of burning sulphur and subsequent ventilation, and washing with solution of corrosive sublimate or some of the preparations of chlorine. The clothing of the crew and their personal effects would be also disinfected, and they would be kept under supervision until danger of communication of the disease had passed.

Vessels on which there has been no malignant or contagious disease during the voyage, and on which there is at the time no sickness, may come to any public wharf in New Haven harbor and signal for the health officer; but no person is allowed to leave the vessel before the arrival of the health officer. In case of any sickness on board, the vessel shall come to anchor within quarantine limits and signal for the health officer from there. The quarantine station is only one and one-half miles from the centre of the city, and in New Haven harbor directly in the line of travel.

In case of the arrival of a cholera vessel, it would be detained in quarantine. There is no hospital provided for the reception of cholera. Patients would be kept on board, under such care as was practicable, respecting isolation and disinfection, until a temporary provision could be made (by tents, probably,) on the shore for their reception, after which the vessel would be disinfected. If the cargo was such as to require special apparatus for disinfecting, it would be necessary to send the vessel to New York or elsewhere for that purpose.

New York:

About two-thirds of the total immigration and more than two-thirds of the total foreign imports into the United States pass through quarantine at the port of New York. Without assuming that these proportions may be taken as a measure of the relative importance of the New York quarantine compared with the quarantines of the rest of the country, its absolute importance cannot be overestimated. The individuals and their effects and the cargoes with which it deals are distributed to every part of the continent, and while, from climatic and other conditions, the port itself might be protected by given quarantine methods, it would by no means follow that measures adequate for such protection would insure the safety of remote sections of the country from the disastrous effects of the importation of foreign contagion or infection through and beyond the port. Many improvements in the New York quarantine system have been made during the past twelve or fifteen years, and to a great extent in direct recognition of these considerations. During this period the interest of the interior in the administration of the system has come to be acknowledged and is allowed to exert some influence.

The statutes relating to quarantine at the port of New York are very voluminous, but the most important are to be found in chapter 358 of the Laws of 1863, entitled "An act establishing a quarantine and defining the qualifications, duties and powers of the health officer for the harbor and port of New York," and in chapter 5̇2 of the Laws of 1865, amendatory thereof. Although there is a board of quarantine commissioners, consisting of three members, the powers and duties prescribed by the law are practically exerted and discharged by the health officer aforesaid. In 1880, upon the establishment of a State Board of Health, this officer, together with the attorney-general and the superintendent of the State survey, were made *ex-officio* members of the State Board; but no control or authority over maritime quarantine is conferred upon or exercised by the Board, except indirectly through the *ex-officio* connection of the health officer, who is chairman of a standing committee of that body upon the subject of quarantine.

On the 10th, 11th and 12th of August, in company with Dr. William M. Smith, Health Officer of the Port, I made a personal inspection of the quarantine establishment and of the methods enforced thereat. The quarantine anchorage is in the Lower Bay, a triangular area of about two and one-half miles along its sides, its northern apex being about eleven miles from the city and five miles from the health officer's station, near Clifton, on the left shore of the

Narrows. At the upper apex of the anchorage, and about four miles inside of Sandy Hook, is moored the quarantine ship Illinois, in charge of a deputy inspector.

After the first day of May and until the first of the ensuing November, all vessels from the West Indies, the Windward Isles, the east coast of South America, and the west coast of Africa, as also those from infected ports of the United States, are brought to an anchor near this vessel and boarded by an inspector from an ordinary row boat. The officer ascertains—1st. The present condition of the passengers and crew. 2d. The history of the vessel during the passage in reference to sickness, etc., and the sanitary history of the vessel while in the port of departure. The bill of health is then examined, and the sworn statement is next required, of the captain and medical officer of the vessel, each being duly sworn, that the port or ports from which they sailed were, to the best of their knowledge and belief, perfectly healthy, being free from all malignant, contagious and infectious disease; that no such disease existed among the shipping in said port or ports at the time of their departure, and that no case of sickness or death from smallpox, cholera, yellow fever, ship fever, or any contagious or infectious disease has occurred on board their vessel while in any port or on the passage.

A careful examination is made in every instance of the steerage, and if objectionable from filth, it is ordered to be immediately cleansed and then fumigated. If the vessel has been absent from the port of departure for a time, equal to or exceeding the usual period of incubation of the disease prevailing at such port, the passengers are inspected by the quarantine officer and the vessel is discharged under permit.

If there is any sickness of a suspicious character resembling yellow fever, cholera or typhus, the sick are removed to the quarantine hospital on Dix island. If the ship is less than five days from a port infected with yellow fever, passengers and vessel are held until that period has fully elapsed. In the meantime the hatches are opened, the cargo and steerage are fumigated twice, at various intervals of several hours, with chlorine or sulphurous-acid gas.

All baggage, mails, and whatever articles liable to have become infected are put in a close apartment and submitted to disinfection by the agents mentioned. This done the master of the vessel is given a "permit" and directed to the discharging anchorage in the upper bay, distant three miles from the city. Here (in the language of Dr. Smith's report,) under the constant supervision of the quarantine police, and the frequent visitation of the health officer, the most perfect system of cleanliness is enforced. In the meantime the cargo is discharged upon open lighters. The exposure of the cargo to air in its transit to the dock, serves still further to remove the danger of infection. There is no instance of the propagation of disease from that source in the history of quarantine at the port of New York.

The cargo being removed, the hold is thoroughly washed, and in the case of sailing vessels the limber-streaks along the keelson are taken up, accumulations of filth removed, and the air-spaces washed down, until the water returns clear of any evidence of impurity. A solution of sulphate of iron, or of bichloride of mercury is then used, with which to scrub and rinse the entire hold, inclusive of the air spaces and limber streaks. Finally, from fifty to one hundred pounds of sulphur, according to the size of the vessel, are burned under the hatches, which are closely covered. The ship's crew are then mustered, and examined as they pass the health officer. If all are well the vessel is allowed to proceed to her dock without further delay. In vessels suspected of yellow-fever infection, the crew are not allowed to discharge cargo, or if they do, are submitted to a quarantine of observation for five or six days.

All foreign vessels not subject to visitation in the lower bay are boarded by the health officer or his deputy at the boarding station on Staten island, a short distance above the Narrows, and opposite the health officer's residence. From May until November following, all vessels from ports "south of Cape Henlopen," are visited at this point, unless some of the ports south of this become infected with yellow fever, in which case vessels from such ports are examined at the quarantine station in the lower bay.

The quarantine hospital for yellow fever and other contagious diseases, except small-pox, is upon Dix island, an artificial construction about two miles above the quarantine anchorage toward the Staten island shore, out of the track of commerce. The hospital is built on the pavilion plan, has five wards connected by covered passage-ways, and has comfortable accommodations for 300 patients. There are also on the island suitable quarters for officers and attendants, a disinfecting room and all the modern sanitary appliances. Small-pox cases are not treated here, but are taken to one of the city institutions on Blackwell's island in the East River.

One mile above Dix island is Hoffman island, also artificial, and upon this are the buildings and appliances necessary for a quarantine of observation. "Suspects" from yellow-fever, cholera, typhus, or yellow-fever exposure, are here detained during the respective periods of incubation. Two immense structures furnish accommodations for about 2,000 persons, and in another building are the quarters for officers and employès, and for administration purposes. Abundant bathing and laundry facilities and disinfecting appliances are provided, and here, as well as on Dix island, are immense reservoirs and a number of cisterns for the storage of fresh water.

The health officer's station, or main quarantine station, is near Clifton, and at this place is the residence of the health officer, quarters for two deputies, and a good wharf. Vessels are here boarded from a commodious steam yacht, by which, also, communication with the other divisions of the quarantine establishment is maintained The islands and stations are connected by telegraph, and the health officer's quarters are also connected by wire with the city.

The personnel of the establishment varies with the exigencies of the season. In addition to the health officer, I found only two deputies employed, one upon the quarantine ship and one at the quarantine station. Dr. Smith himself attends to the sick in hospital, and was treating a yellow-fever case (convalescent) during my visit.

Summing up, with reference to the exclusion of cholera and small-pox, the quarantine plant and facilities of the port of New York are unrivaled, the printed regulations judicious, and with proper vigilance, the service should suffice to prevent either of these diseases from obtaining access to the country through this avenue. But the entire system is hampered by a vicious financial policy which is, in effect, a farming-out of the service. At the other important ports the fees go directly to the municipality or State, and the chief executive officers are paid fixed salaries, and are provided with such employés as may be necessary to the proper and efficient conduct of the quarantine.

New York may exclude cholera under her present system, but more confidence would be reposed in the result if less were demanded of professional ability, personal integrity and executive firmness in the health officer, and if the system were freed from influences which are most deprecated by those who, without prejudice, best understand them.

Cholera found its way through this port to the eastern portion of the country in 1849, and to the country generally in 1865. No attention is paid to the vaccinal status of immigrants unless the disease is actually on vessels. As a natural consequence small-pox has repeatedly been introduced into the interior through this port.

Pennsylvania:

THE maritime quarantine of the port of Philadelphia, and practically of the State of Pennsylvania, is enforced at the Lazaretto, situated on the left bank of the Delaware river, about eleven miles below Philadelphia. In company with Dr. R. A. Cleeman, of the City Board of Health, and Dr. Benjamin Lee, Secretary of the State Board of Health, I made a visit of inspection to this station on the 6th of August last. The quarantine grounds are about ten acres in extent, surrounded by cultivated farms and separated from the main channel by Little Tinicum island, between which island and the station there was formerly a navigable channel which was used as the quarantine anchorage, but is now too shallow for that purpose for large vessels.

Quarantine was established at this point in the early part of the century, and sections of a law enacted in 1802 are still in force. There has been practically little change in the equipments or methods since 1818, except that a steamboat has replaced the many-oared barge used formerly in visiting, and that by this means vessels are inspected *en route*, not being obliged to anchor unless detention for sickness is necessary. The structures, comprising a large hospital (sixty beds), administration building, government warehouses, etc., are well built and spacious, but antiquated. For more than half a century the establishment was the best equipped on the continent.

All the vessels from foreign ports and such American ports as may be designated by the Board of Health of Philadelphia, bound for the port of Philadelphia, and arriving between the first of June and the first of October, are required to come to anchor as near the Lazaretto as the draft water will permit, and there await the visit of the quarantine officers,—the Lazaretto physician and the quarantine master. The former administers the oath or affirmation to the captain, and examines personally into the state of health of all on board, and, in conjunction with the quarantine master, ascertains the sanitary history of the voyage, condition of port of departure, character of cargo, etc. The latter officer examines into the condition, with regard to cleanliness, of the hold, cabin and forecastle, causes the bilge to be pumped out and purified by fresh water, and ascertains whether any part of the cargo is in a damaged or infectious condition. If the vessel is satisfactory in all these respects, a certificate to that effect, signed by both officers, is furnished and she is allowed to proceed to the port. This certificate is addressed to the health officer of the port, to whom it must be delivered within 24 hours after the vessel lands at her wharf.

If any contagious or infectious disease (measles excepted) be found on board, or if the vessel be from an infected port, or if her cargo be considered dangerous as to contagion or infection, or the vessel's sanitary condition be unsatisfactory, the certificate is withheld and the necessary measures are instituted to render her safe from conveying contagion or infection. These measures, under the control of the board of health of the city, are entirely within the discretion of the Lazaretto physician—which officer is appointed by the Governor—and are enforced under his supervision by the quarantine master. So far as they are prescribed they consist of purification "by ventilation, scrubbing and whitewashing." Fumigation is effected by sulphur combustion in iron pots. There are none of the modern appliances for disinfection of vessels or cargo. No attention is paid to the vaccinal status of immigrants unless small-pox is discovered on a vessel; and as a natural consequence the disease has frequently been introduced into the interior through this port. Telegraph communication has recently been established with Philadelphia.

Owing to the filling up of the channel in front of the Lazaretto, large vessels detained in quarantine could not be kept out of the track of commence as completely as is desirable. In examining the surroundings of the station we proceeded on the quarantine steamer as far south as Chester, at which place we found the revenue cutter from which inspections of vessels arriving in the Delaware Bay are made. In connection with these inspections I took occasion to repeat the suggestion made at Baltimore, to-wit: That the government inspection service should be utilized as fully as possible, and to this end should receive the coöperation and recognition not only of Pennsylvania, but of the Delaware and New Jersey health authorities, State and local. This suggestion was subsequently acted upon by the adopted of a resolution by the Philadelphia board of health requiring all vessels from infected ports to report for the removal of sick sailors at the U. S. Quarantine Station at the Delaware breakwater, before proceeding up the river.

Dr. Benjamin Lee, of the State Board of Health, wrote me on the 28th of September that "in company with Drs. Cleemann and Ford and several non-professional members of the city board, Dr. Wilson, the Lazaretto physician, and Dr. Bailhache of the Marine Hospital Service and National Board of Health, I visited the U. S. Quarantine Station at the Delaware breakwater on September 4. Dr. Marshall of the Delaware State Board joined us on the way. Dr. Hunt of the New Jersey Board fully expected to come, but was prevented by an outbreak of typhoid somewhere in his bailiwick."

After describing the accommodations, surroundings, etc., and means of boarding vessels, Dr. Lee adds: "The vessels lie about four miles off in very rough water and decline to come inside the breakwater an account of the time which it takes. The only boat is a little yawl entirely unfit for heavy weather. There is space enough to put up temporary barracks here in case of emergency, and there is a government pier close by to which vessels could be brought. There are no arrangements for disinfecting cargoes or clothing.

"It is doubtful whether this would be the best place for a permanent quarantine station on account of the exposed situation and roughness of the water. Also because in case of storm so many vessels take refuge here, often close together. The distance from the city is also a possible objection. ?] I think there must be an island higher up the bay somewhere, which could be utilized for the purpose."

Delaware:

Quarantine along the Delaware coast is limited to the local regulations of the coasting trade. There is a government quarantine station at the Delaware breakwater, described in connection with the Pennsylvania quarantine system.

Maryland:

On the 4th of August, accompanied by Dr. James A. Steuart, Health Commissioner, I made an inspection of the quarantine establishment at the port of Baltimore. This is situated at Little Hawkins or Leading Point, about seven miles from the city, on the Patapsco river. The grounds belonging to the station embrace about twenty-five acres, surrounded by improved farms. There is a new and well arranged hospital building with accommodations for forty patients. Also a residence for the physician in charge, boatman's house, stables, etc., all in good condition and neatly kept. The station is connected by telephone with the city. There is no provision for the care of those detained for observation after exposure upon an infected vessel. The hospital facilities may be increased by the use of tents in suitable weather, and in case of emergency the old quarantine establishment, now used as a small-pox hospital, might be utilized.

The quarantine season extends from May 1 to October 31, and during this period an assistant resident physician is on duty at the station. All foreign vessels bringing passengers are required to stop for examination throughout the year. No attention is paid to the vaccinal protection of immigrants, unless small-pox is discovered on a vessel, and owing to this neglect repeated introductions of the disease into the interior have occurred through this port. Vessels are boarded in the harbor from a steam tug, kept in constant readiness for that purpose.

The depth of water at the quarantine anchorage is about twenty-two feet at low tide, and there is plenty of room to anchor vessels out of the track of commerce. There are no facilities as yet provided for the discharge and disinfection of cargo from an infected vessel, but additional facilities and proper appliances for disinfection are contemplated.

As a further precaution in the present emergency, I suggested the advisability of requiring vessels to submit to inspection by the Government service at Cape Charles.

Virginia:

Dr. James D. Galt, the Quarantine Medical Officer of the Elizabeth river district, has furnished the following from Norfolk, under date October 20, 1885:

In reply to your inquiries as made in letter No. 20,519, I would briefly state that the quarantine facilities of this port are ample. Situated on the Elizabeth river, itself an estuary of Hampton Roads, there is all the sea room necessary for an efficient quarantine. The quarantine station is abreast of Carey island, five miles below the city, where the river rapidly widens into Hampton Roads. Vessels are invariably examined at the station, and are absolutely prohibited from coming up until inspected by the quarantine officers.

There is nothing special about our method of disinfecting vessels, cargoes and the crew. The fumes of burning sulphur are usually employed for the former. Sometimes, in the case of large-sized vessels, chlorine, generated by the action of sulphuric acid upon common salt, is also employed below the water line. Vessels in quarantine are anchored at a safe distance outside the main ship channel.

So far I have had no cholera-infected vessels to inspect. Should any such arrive, I would treat them on the same general principles of disinfection as other vessels, giving special attention to the thorough disinfection, or destruction, if necessary, of all clothing, bedding, rags, or any other materials which might act as fomites for the infection.

In response to a subsequent inquiry, asking what assistance or protection has been afforded by the quarantine or inspection maintained by the National government through the Marine Hospital and Revenue Marine services, Dr. Galt writes that "while it does not relieve me from responsibility as the local quarantine officer, it is undoubtedly an additional protection to this city, and I would compare it, in military phrase, to a second line of entrenchments around us. This service is, as you know, maintained only during the warmer months, and was raised on the 10th inst. (Nov.) for the winter, so that I am now without its assistance."

Subsequently, Dec. 31, the following information was furnished through Dr. Galt by Dr. F. M. Urquahart, of the Marine Hospital service. The service has two quarantine steamers, the Woodworth and Manhattan, which are used for inspecting vessels. If any vessel is found infected it is carried to Fisherman's island and quarantined, and the sick placed in hospital on the island. The hospital was built during the summer of 1884, and contains about twenty beds.

Fisherman's island is just off Cape Charles. A keeper and assistant remain at the hospital at all times, and extra help is employed in case of sickness. Two surgeons of the Marine Hospital service are detailed for the summer season (May to December), the one in charge, the other as assistant. The vessels inspected are all foreign vessels and vessels from the southern ports of the United States. Every vessel is thoroughly inspected (each man inspected and cargo examined). If a vessel is found infected, the cargo is transferred to lighters and thoroughly disinfected (or thrown overboard), and the vessel is thoroughly cleansed, disinfected and detained in quarantine for a certain length of time.

North Carolina:

THERE are four ports of entry on the North Carolina coast, all having good and spacious harbors, namely, Edenton, Beaufort, Newberne and Wilmington. Of these the port of Wilmington is the only one of importance for quarantine purposes. Dr. Thos F. Wood, Secretary of the North Carolina State Board of Health, writes as follows concerning quarantine at this port:

In reply to your letter of inquiry No. 20,513, I would say: Our quarantine facilities are inadequate. The quarantine station is at the mouth of Cape Fear River, 20 miles from Wilmington. At this station certain vessels are required to proceed at once to the station for inspection. The quarantine officer is appointed by the Governor. He lives at the station and has immediate charge of all the details of disinfection, cleansing, unloading and police direction of the detenues.

In all cases of doubt he submits his case to the advisory quarantine board, two gentlemen selected by the President of the State Board of Health, and who reside in Wilmington. Each vessel is treated upon its individual merits, and the rules are made elastic enough to apply to each case.

Our means of disinfection are primitive. The vessel is unloaded, bilge is pumped out and fresh water pumped in until it is discharged clear and odorless, and the disinfection is completed by burning sulphur under closed hatches. The vessels are usually small, and come in ballast, and as they are not numerous there is little difficulty in performing satisfactory cleansing. When there is doubt, the vessel is required to load at the station, the cargo being carried to it in lighters.

Should a vessel put in with cholera on board, we would relieve the necessities and have her towed to Sapelo Station. If her crew was small we would keep her under observation, and treat the men on board. The quarantine hospital was burned two years ago, and the State has not rebuilt it.

Dr. Wood encloses a printed copy of the quarantine regulations, but as these are sufficiently summarized in his letter they are omitted from this report.

South Carolina:

THE quarantine system of South Carolina is governed by the provisions of a State law, approved December 20, 1881, entitled "An act to render more efficient the quarantine service of the several ports of the State." Under this enactment the administration of quarantine at the port of Charleston is placed in charge of the board of health of the city, subject to the advice and supervision of the executive committee of the State Board of Health. At the other ports of the State quarantine remains under the supervision and control of this latter body, and the stations at Georgetown on South island, at St. Helena entrance on Buzzard's island, and at Port Royal on Paris island, have received special attention since the danger of cholera importation became imminent. Many of the buildings have been repaired, and new ones have been erected on the site purchased last year on Buzzard's island.

The following regulations—which are uniform with those in force at the Georgia quarantine stations, so far as relates to foreign vessels—govern the quarantines of South Carolina:

I. On and after the opening each year of the National quarantine station (Sapelo Sound), all vessels from infected or suspected latitudes arriving with sickness on board, or having had same during voyage, must be directed by the pilot to proceed to said National quarantine station.

II. Any vessel arriving at this port bearing the certificate of the National quarantine officer, must be brought to anchor at the quarantine station, and there remain until released by the order of the board of health.

III. During the closure of the said National quarantine station, all vessels such as above described, must anchor at the port quarantine station, under personal direction of the quarantine officer.

IV. Vessels from any foreign port direct, or via American ports, with or without sickness on board, will, during the entire year, be compelled to anchor and remain at the quarantine station until released by written permit of the quarantine officer.

V. All vessels arriving at this port with sickness on board, or having had same during voyage, will, at all seasons of the year, no matter from what port, either American or foreign, anchor at the quarantine station, and there remain until released by order of the Board of Health.

VI. Vessels from infected or suspected latitudes, will, during the entire year, be required to discharge any and all ballast at the quarantine station, or such other place as may be designated by the health authorities, in the harbor under water; to have bilges and timbers cleaned and sweetened, and from May 1 to November 1st of each year be subjected to at least two fumigations and such other disinfection as may be necessary, and be detained at least fifteen days.

VII. On and after May 1st, and until November 1st of each year, and longer if the board of health so determine, all coastwise vessels or steamers from latitudes south of Cape Hatteras, other than those by inland route, must anchor at the quarantine station. Steamers and vessels from non-infected or non-suspected ports will not be detained longer than necessary for the quarantine officer to satisfy himself of their perfect sanitary condition. Vessels from infected or suspected latitudes will have to comply with section VI, be fumigated at least twice and detained at least fifteen days.

VIII. Coastwise steamers and vessels arriving at this port by inland route, from latitudes south of Cape Hatteras, between May 1st and November 1st, and later, if the board of health so determine, must be inspected and given permit by the quarantine officer, before the landing of either passengers or freight.

IX. From May 1st to November 1st of each year, no vessel from an infected or suspected latitude will be allowed to either lighter or bring cargo of fruit up to the city.

X. Pilots must, in each case before boarding, make inquiry as to the sanitary condition of vessels; in no case must they board if the vessel has sickness on board, or has had same during voyage: in such cases they must either direct to Sapelo quarantine station, lead the vessel in, or have their small boat hoisted alongside, clear of the water, and in this way pilot the vessel in.

Dr. H. B. Horlbeck, City Registrar and Secretary of the Charleston Board of Health, furnishes the following information concerning the station at the port of Charleston:

The station at Fort Johnson, on James island, is about two miles east from Charleston in the harbor. The buildings comprise a fever-hospital and pest-house, offices, etc. There is a fine and commodious wharf, also boats for boarding purposes, under care of a quarantine officer, and a guard boat. Service is maintained from May 1st to November 1st every year, to prevent unauthorized communication with the station. This service is also continued from November to May when necessary. Vessels are inspected at the station in the stream. They are fumigated with sulphurous-acid gas, and disinfected with the bichloride-of-mercury solution.

Cargoes of fruit from infected ports are not permitted to go to the city from May 1st to November 1st, and certainly no other cargo until it has been taken out of the ship at the station and fumigated (see quarantine regulations.) Vessels arriving pass within a few hundred yards of vessels detained at quarantine. No vessel from a cholera port is allowed to come in, but is ordered to Sapelo. Should a vessel have either cholera or yellow fever break out at quarantine it would be sent to Sapelo instanter, or on the next tide —that is, certainly within twelve hours.

Georgia:

Dr. J. T. McFarland, Health Officer of Savannah, furnishes the following in response to my letter:

The quarantine station is located seaward of the city, distant between fourteen and fifteen miles, upon an oyster-bed shoal; this shoal is entirely surrounded by water and is covered about four feet in every flood tide. One short angle of the river channel runs within about three hundred yards of the station. All vessels from infected or suspected parts and latitudes are required to discharge ballast all the year round at this quarantine station. No ballast from the West Indies, or suspected localities north of Rio de Janeiro, has been allowed to be brought to the city of Savannah since 1876. This regulation was instituted as a guard against yellow-fever introduction.

The facilities of the station are not as great as are required: an increase of wharfage and the erection of a storehouse are needed.

All vessels are inspected at the quarantine station by the resident physician. Vessels in cargo, from foreign ports, seldom come to this port between May 1 and November 1. I believe this is the case at the other South Atlantic ports. During this season but one vessel in cargo (guano) has arrived here.

Coffee vessels have been in the habit of coming to this port, and have been required to undergo sulphur fumigation with cargo in place; the fumes of the gas do not injure the quality of the bean in the slightest degree. The cargo is then allowed to be taken by lighters to the city, while the vessel is detained at the station; her bilges and timbers are cleansed and disinfected with solution of sulphate of iron or bichloride of mercury, and, along with all clothing and bedding, she is then subjected to a second fumigation.

The requirements having been carried out, and no sickness having occurred on board during detention time, permit is granted by the health officer for the vessel to come to the city. The clothing on board any such vessel is subjected daily, during detention, to the action of fresh air, all bedding and clothing being exposed on deck of vessel and in some cases these are subjected to boiling. Fumigation with chlorine gas is frequently resorted to—always when there is any suspicion of small-pox infection.

So soon as cholera became epidemic in Spain this past summer, orders were issued to the pilots of this port, not to board, but to direct to the Sapelo quarantine station, any and all vessels arriving from ports infected with cholera. This National quarantine station is distant only about sixty miles from the mouth of the Savannah river. Recently orders have been issued allowing pilots to lead to the port quarantine station any vessel from the Mediterranean coast, when such vessel has not had death or acknowledged infectious disease aboard during her voyage. This change of order was made in consequence of the decrease of cholera in Europe.

These vessels were ordered to the National quarantine station because they were all deemed entitled to thorough cleansing, and the health authorities of Savannah decided that if cholera did make its appearance on board any of them while having the clothing, bedding, etc., attended to, it would be decidedly preferable to have them away from this port.

Vessels arriving at this port from yellow-fever latitudes are not boarded by the pilots. Such vessels are led into quarantine grounds if they have not had sickness on board during voyage. If they have had sickness on board during voyage, which the captain acknowledges to have been suspicious, he is directed to the Sapelo station.

If any vessel arrives at the port quarantine station and it is determined after investigation that she has had infectious or contagious disease on board, she is immediately ordered to leave the port, and is directed to the National quarantine station. This refuge is unquestionably a very great safeguard and help to this portion of the Atlantic coast, and in helping and protecting us it protects the country at large.

Should a vessel arrive at this port with cholera on board, and the National quarantine station be closed, the ship would be placed at the greatest distance from line of travel (say three-fourths of a mile) and guard boats, with most reliable crews, would prevent any communication with or from her, excepting the quarantine physician, who would have to remain and look after the sick.

Telegraphic communication would be opened at once with the authorities at Washington, asking the immediate opening of the National quarantine station. If such station was opened the vessel would be sent there. If it was not opened the health authorities of Savannah would have to assume the responsibility and do the best in their power to prevent the spread of the disease.

In closing I cannot refrain from an expression of condemnation and protest against the unreliability of the ordinary bills of health issued by some consuls of the United States. They are worse than useless—they are dangerous. It is a frequent occurrence that clean bills of health are issued by them at ports where deadly epidemic diseases are prevailing. There should be some remedy for such pernicious and questionable conduct.

Again, I know positively that steamships, from districts of Spain affected terribly with cholera, have been admitted into one of the largest ports of the United States, during this season, without the slightest attempt at fumigation of the clothing of seamen, or cleansing of vessels, the statement being made to me in official correspondence, that as no sickness had occurred during the voyage it was deemed unnecessary to take any precautions, and that this would be the line of action pursued in the future at that port.

Dr. Jas. S. Blain, Health Officer of Brunswick, answers:

1. The quarantine facilities of Brunswick are not so perfect as I would like to have them; but they have proven sufficient to protect this city from all epidemic infectious and contagious diseases since the yellow fever epidemic of 1876.

2. I inspect all vessels at a distance of from four to ten miles from the city. All vessels are inspected before permission is granted to proceed to the city.

3. Vessels are purified and disinfected, first by the discharge of all ballast and cargo; secondly, the planking along the keelson is taken up, all filth collected in the limbers of the vessel taken out, and the vessel thoroughly washed and pumped out, salt water being used until the vessel is perfectly clean; thirdly, a strong solution of carbolic acid and sulphate of iron is applied to the whole interior, and the vessel is then fumigated by burning from 100 to 300 lbs. of sulphur in the cabin, forecastle and hold of the vessel. All bedding and clothing of the crew is subjected to cleansing and disinfection. All infected or suspected vessels are detained ten days after cleansing, then if no case of disease appears the vessel receives a permit to proceed to the city.

4. The quarantine station is four miles from the city; it is not out of the line of travel, but no intercourse with vessels in quarantine is permitted.

5. All vessels with sickness on board, and all vessels from cholera-infected or suspected ports whether or not having sickness on board, are sent to Sapelo Sound. All pilots and steam tugs on this bar have permanent instructions to order all vessels with sickness on board or from cholera-infected ports to Sapelo Sound. Pilots are not permitted to board such a vessel, but are instructed to direct or conduct them to Sapelo Sound. After discharge from the National quarantine station, all vessels are again inspected at this quarantine station before receiving a permit to proceed to the city.

Florida:

Notwithstanding its extended coast of nearly 1,200 miles, Florida has few harbors inviting foreign commerce, and except Fernandina and Pensacola, the relations of its seven ports of entry to the interior are limited. A State enactment approved February 16, 1885, provides for the appointment of county boards of health which are clothed with full power to act in regard to all matters pertaining to quarantine, to appoint a port inspector and other officers, to declare and establish quarantine and provide rules and regulations for its enforcement, and "after the establishment of any quarantine against any port or place, any person violating the same shall be deemed guilty of a felony, and upon conviction thereof, shall be punished by a fine of not more than five hundred dollars, or by imprisonment in the state penitentiary not more than one year."

Under this law the quarantine of the port of Pensacola is now administered by the Escambia county board of health. The station is on Santa Rosa island about nine miles from the port, and is described by the quarantine physician, Dr. White, in reply to my inquiries addressed to Dr. R. B. S. Hargis, as being supplied with "all the buildings necessary for quarantine purposes."

Vessels are inspected at the station. Vessels detained are required to discharge all ballast, and after the discharge of ballast, the vessel is thoroughly cleaned and washed in all its parts, then fumigated, using 12 pounds of sulphur to every 100 tons registered, the fumigation lasting 12 hours. After fumigation, a saturated solution of copperas is poured through the air-streaks, between each timber, running down to bilge; lime water (whitewash) used in the same manner. The entire hold is then whitewashed, lime put in bilge to the forecastle, with bedding, clothing, etc., under the same process of cleansing, fumigation, etc., the cabin receiving the same attention.

It is not probable that a vessel with cholera on board will arrive at this station, as all vessels arriving outside the entrance of the port upon which any contagious, infectious or pestilential disease occurred during the voyage are sent to Ship island, the pilot cooperating with the local authorities in directing them to that station.

Should, however, a vessel get to this station with cholera on board, and in such a condition that she could not be sent to Ship island, the sick would, if possible, be cared for in hospital, and the vessel put in best sanitary condition, and such bedding, clothing, etc., as could not be disinfected would be destroyed.

Dr. Alexander, Port Physician at St. Augustine, writes that the quarantine flag for that port stands about one and three-fourths miles from the city, where all vessels from a distance are inspected. Coasting vessels, or those plying between this and near ports, are allowed to come to the wharf for inspection, provided there is no sickness on board; if there is, then they share the quarantine ground as all others. Even upon coming to the wharf, no communication is allowed until inspected.

Our pilots are required to learn from the captain, before boarding a vessel, whether she is from a suspected port or has on board a suspected case. In the first case, she is brought with as little contact as possible inside the harbor, there anchored and report made to port physician and board of health. If sickness is on board, she is directed to proceed directly to Sapelo Sound refuge station without boarding or entering harbor here.

Should necessity demand the treatment of a vessel, we would use the disinfectants recommended by the National Board of Health and adopted generally, viz: sulphur, sulphate of iron, carbolic acid, etc., subjecting cargo, clothing, bed-clothes, etc., to the same, and burn what might endanger after-disinfection.

A vessel entering with contagious disease would not be allowed to remain one hour, as the condition of our harbor would subject the whole city to immediate infection; even should a vessel coming from foreign ports be in perfect health and condition, she must stop at quarantine ground, and all circumstances connected with her trip be well considered by the board of health before allowing her to come up.

The coast map will show our unfortunate position as far as receiving or entertaining a vessel with disease on board. Our proximity to the high seas, the short and extremely narrow inlet, could but endanger us under the most favorable circumstances, as the small craft or pleasure boats would pass less than one hundred yards from the anchorage.

No responses have been received to repeated requests for information from Key West and other of the Florida ports which it was not practicable to visit personally.

Alabama:

The coast quarantine of Alabama is limited to one port of entry —Mobile, and concerning this, Dr. Jerome Cochran, the State Health Officer, has kindly furnished, in response to my questions, the following succinct replies, which fully cover all the important points:

1. The Mobile quarantine station is chiefly an inspection station, but has the ordinary appliances of disinfection.
2. The entrance from the Gulf of Mexico into the Bay of Mobile is thirty (30) miles from the city, and vessels are boarded for inspection at this entrance.
3. Vessels from infected ports with no sickness on board are disinfected anyhow before they are allowed to approach the wharfs.
4. Vessels with any infectious sickness on board, or having had any cases during the voyage, are sent at once to Ship island. Such vessels are not allowed to enter the Bay at all until released from quarantine by the Ship island officials.
5. Mobile is thoroughly in earnest about her quarantines, and no infectious disease has been introduced through the quarantine into the city since the war. Such outbreaks as we have had have been the result of infection brought overland from New Orleans.
6. Any vessel having on board at the time of its arrival, or having had on board at any time during the voyage, yellow fever or cholera, would be sent to Ship Island at once and not allowed to enter the bay at all until discharged from the station, and even then, if there was any suspicion that she still remained dangerous, she would be disinfected anew at our own station.

Mississippi:

The county boards of health of Hancock, Harrison and Jackson counties control the maritime quarantines of Mississippi. There is no direct foreign commerce, but Bay St. Louis has a large coasting trade with Mobile and New Orleans, and acquires some quarantine importance in consequence.

Louisiana:

The quarantine system of Louisiana is under the control of the State Board of Health, which is authorized by various acts of the State Legislature to fix the duration of quarantine and to make and enforce all necessary regulations, to contract for building, employ persons, etc. At its direction the Board may at any time cause the detention at the quarantine stations for disinfection, fumigation and purification, of any or all vessels from ports in which yellow fever usually prevails or from ports where other contagious or infectious disease is reported to exist. Quarantine stations are established by law on the Mississippi river, not less than 70 miles below New Orleans, at the Rigolettes—the entrance to Lake Pontchartrain—and below Morgan City, on the Atchafalaya. But the State Board is also empowered to establish additional stations upon any of the approaches to the city of New Orleans in its discretion.

Under this latter authority the present Board has recently established a refuge station in Pas a L'Outre, some 28 miles below the original station, which latter is on the right bank of the Mississippi 75 miles below New Orleans. A boarding station is also maintained at Eadsport, at the head of the jetties.

Accompanied by Dr. Joseph Holt, President of the State Board, and to whose indefatigable energy the recent practical improvements are mainly due, I made a personal inspection of the Mississippi river stations on the 15th, 16th and 17th of July last, and witnessed the inspection of vessels, the disinfection and treatment of an arrival from an infected port—a 2000-ton iron steamer; inspected another which had been treated two days before my arrival and was not yet released; examined the appliances for disinfection, etc., and the buildings, hospitals, warehouse and other items of the quarantine plant. I am, therefore, enabled to indorse from personal observation the claim made that this is the most thorough and vigorous system of sanitary quarantine which has ever been enforced for the protection of a port from the introduction of foreign contagion into this country—if not in the world.

Beginning with the arrival of a vessel in soundings, she is met by the pilot, who co-operates with the quarantine authorities and is frequently accompanied by the medical officer from the boarding and inspection station at Eadsport. This officer examines the ship's log and receives a sworn statement from the captain as to the sanitary history of his vessel and her voyage, beginning at the port of departure. All on board are mustered and carefully examined for cases of suspicious sickness.

If the vessel be found in good sanitary condition and free from infection she is allowed to proceed up the river, but reports at the upper quarantine station for a second inspection. If from a non-infected port, she is now given free pratique and proceeds to the city. If from an infected or scheduled port, or if any suspicious development has occurred in the interim after first inspection, she is either subjected to treatment at the upper station or sent below to the refuge station, as the circumstances demand.

For example: A short time before my visit a Mexican steamer had arrived; she was inspected at the boarding station and all hands mustered and examined as usual, without detecting any suspicious illness. After she had been allowed to depart the pilot reported that a sick man had been roused from his berth to be mustered with the crew. The fact was at once telegraphed to the upper station, and on the arrival of the vessel the man was found to be suffering with what proved to be yellow fever. The vessel, with the sick man on board, was at once sent down to the refuge station for necessary treatment, entirely out of the track of commerce.

If a vessel on first inspection be found infected she is not allowed to proceed up the river, but is at once sent to the refuge station, the sick are removed to the hospital and the vessel is treated as hereafter described. After being thoroughly cleansed and disinfected, she is then sent to the upper station, where the compromised passengers and crew are subjected to a quarantine of observation during the usual period of incubation—depending upon the character of the disease. For the accommodation of these the large government warehouse is utilized. Meanwhile, the vessel may be allowed to proceed to the city in charge of an acclimated crew, or her cargo may be sent up on lighters—at the discretion of the quarantine authorities.

There is one medical officer on duty at the boarding station, one at the refuge station, and two at the upper quarantine—together with the necessary guards, boatmen, stevedores, nurses and other employés. All the stations are in telegraphic communication with each other and with the office of the State Board in New Orleans.

The following extracts from recent letters of Dr. Holt, written me since my visit, sufficiently explain the other details of the present quarantine administration for the protection of the Gulf gateway to the Mississippi valley. Improvements in minor points have since been made, and others will undoubtedly follow as experience demonstrates their necessity. Under date of September 8th Dr. Holt writes:

The system comprehends two stations. The Lower Station, for the reception of infected vessels only, is situated at Pas a L'Outre, an unused outlet of the Mississippi. The isolation of this place is complete, while affording anchorage to vessels of any tonnage. As soon as a vessel arrives in this station the sick are removed to the hospital, where every provision is now made for their proper entertainment and treatment. Preparatory to the disinfection of a vessel, persons are removed ashore and detained there until this process is thoroughly accomplished.

Pending the construction of a receiving wharf and warehouse, the freight, when the requirements of disinfection make it necessary, is discharged into barges, and every part of the vessel is then subjected to thorough treatment. This consists in cleansing of the bilge and flooding it with bichloride of mercury in solution, one part to one thousand of water. All surfaces within the hold or below decks are freely wetted with the same solution applied as a spray from a large watering rose, similar to those used in garden watering-pots, supplied through a two-inch hose, from an elevated tank on the wharf, or from a tank by means of a powerful hand-pump aboard the quarantine tug-boat. The freight in the barge or after its return aboard ship, is subjected to the protracted action of concentrated sulphurous-acid gas.

This is applied in the following manner: Aboard the tug there is a compact battery of twelve furnaces for the rapid combustion of sulphur in large quantity. The furnaces measure each 3 feet 6 inches in length by 12 inches broad and 7 inches in height, and contain, each, a cast-iron pan 3 feet long, 1 foot wide and 2 inches deep. These furnaces open into a large reservoir, to which is connected a driving or exhaust fan capable of displacing about six thousand cubic feet of air per minute. It is driven by an engine which derives its steam from the tug boilers. The sulphurous fumes are conveyed to the close barge or into the hold of a ship through a tube of galvanized iron, jointed in the manner of a stove pipe, twelve inches in diameter, and of a length necessary to reach any part of the ship required. We have now substituted for this a hose of asbestos cloth. The vessel is detained at this station until there is every assurance of her being no longer infected.

The Upper Quarantine Station, situated on the left bank of the Mississippi, thirty miles above its outlets, is the regular station at which all vessels en route to the city are required to stop and undergo inspection. Those hailing from inter-tropical, South American and West Indian ports, and from all the ports of France, and from the Mediterranean, are subjected to the process of disinfection with the mercuric solution and the sulphurous fumes described. Every article of ship's bedding, etc., sailor's luggage, clothing and baggage of officers and passengers is taken ashore, where, on the wharf, it is wetted with the disinfectant solution.

Not having as yet satisfactorily completed our drying chambers this part of the process is still inconvenient. It is desirable that all of these articles should be dried out and returned aboard ship as early as possible. In the meantime the vessel has been treated by the disinfectant wetting in every part, and every particle of the atmosphere heretofore contained in her has been displaced by the sulphurous acid gas.

Vessels, together with their cargoes, officers, passengers and crew, coming from ports infected with yellow fever, are compelled to remain in quarantine a period of five days from moment of arrival, for observation, in order to give a reasonable assurance against the presence of the disease in its incubatory stages.

The entire treatment of a vessel to prevent the introduction of cholera, yellow fever or small-pox is so exacting and so rigorous as to occasion no little grumbling on the part of those who must undergo it. This is particularly the case with officers and others aboard Mexican, Spanish and Italian vessels. These persons resent any effort at sanitary treatment as a personal affront, while, in fact, they most require it. They are utterly without feeling, and indifferent as to whether they convey to our port, cholera, yellow fever or the plague. The Americans, English, French and Germans are reasonable in this matter. I mention this as a simple matter of experience in regard to nationalities, as we have to deal with them in quarantine.

Our quarantine methods represent the introduction of a system of maritime sanitation which has already suggested many particulars of improvement, and has opened to our view a broad field of sanitary enterprise, far wider in its possibilities of good— first in giving the highest attainable quarantine against the introduction of pestilential diseases, and secondly, in removing foolish and untrustworthy restriction, destructive of international commerce and travel. We have demonstrated by practical experience that the entire plan of treating ships in quarantine, or maritime sanitation, can be operated at a very moderate cost in ports doing a small business in shipping.

The following passages from the letter referred to are of special interest:

In using the bi-chloride of mercury, we know that we have one of the most powerful of all the germicidal agents. Practical test in municipal disinfection and in quarantine has demonstrated its absolute freedom from injury to those having to do with it. In the operation of maritime sanitation, our employes have been wet with the solution from head to heels, and for hours at a time, without having as yet shown the slightest evidence of mercurialization. The clothing and other baggage of passengers and crew have been soaked in it without the slightest injury to persons or fabrics. Injury to the latter has always been due to the water and not to the chemical. The decks, cabins, bunks and every available part of the vessels have been freely drenched with the solution without injury.

The sulphurous-acid gas, used as the displacing agent of the atmosphere below deck, has long since proved itself the most reliable gaseous disinfectant and the least injurious to cargo of any yet tried. As applied in our quarantine, it is like turning loose a volcano into the hold of a ship. The amount of sulphur used on any one vessel varies from one hundred and fifty to nearly three hundred pounds, so applied as to displace with immense force every particle of air contained in the bilge, between the planking or skin, and ceiling, in all parts of the cargo and dunnage. So searching are these fumes under the operations of the law of the diffusion of gases, favored by high pressure and rapid motion of currents, that a bowl of rain water, buried in the heart of a cargo of coffee, seventy-five feet distant from the conveying hose. was found distinctly impregnated with sulphurous acid. The effect upon the coffee itself, when dry and in good condition, was not observable.

By getting the hose well into the dunnage, we can now treat a cargo of coffee with a thoroughness never before contemplated, and without the extra expense to shippers or consignees of a dollar, as against from five hundred to eighteen hundred dollars in times past, when quarantine treatment involved discharging and reloading cargo, and the employment of a great gang of stevedores. barges. tugs, etc., and even then the disinfection was utterly worthless, as proven by the subsequent appearance of yellow fever on the ship in port. If recent observations on the destructive influence of mineral acids, even greatly diluted, on the cholera virus are true, then we have in this agent the most efficient adjunct to the mercuric solution.

As an instance of unexpected difficulties met with in practice, the amalgamating powers of the mercury salt on pumps, fittings of hose, nozzles, spray roses, etc., presented for a while a most formidable difficulty, finally overcome in a simple and economical way. The rapidly destructive effect of the heated sulphurous-acid gas upon all flexible hose of organic composition, compelled us to adopt the galvanized iron tubing, heavy and excessively awkward in use. This I have completely overcome by having had manufactured a close-woven, twilled or corduroyed asbestos cloth. While a perfect non-conductor of heat, this material is abundantly strong and light, and is proof against acids or heat.

Under date of November 11th, 1885, Dr. Holt writes: In reply to your letter No. 20,867, I have the honor to state that we are maintaining a careful guard in the inspection of all vessels from Mediterranean ports. The process of bi-chloride disinfection is enforced, however perfect the health record and clean the bill of health, including a careful attention to bilge. The only modification in the full force of treatment is the omission of the atmospheric displacement by the sulphurous blast. This feature of our system was discontinued November 1, the end of our regular quarantine season.

We are rapidly constructing an immense heating chamber, supplied with a double steam coil from a twenty horse-power boiler. The builders (Chicago) insure the easy and speedy attainment of 250° F. This will be used in addition to the bi-chloride mercury wetting. Any vessel not giving proof of continued good health or, in other words, showing any ground for suspicion, will be remanded to the lower station, where she will be subjected to prolonged and vigorous treatment.

The new system has paid out of itself every dollar of running expenses. We will open it in perfect working order as to every detail early in May next. We are fully impressed with the necessity of maintaining vigilance in regard to cholera.

Cholera was introduced into this country through the port of New Orleans, in December, 1848, and again in February, 1873.

Texas:

The quarantine system of Texas covers a coast line of some 500 miles, extending from the mouth of the Sabine at the Louisiana boundary to the mouth of the Rio Grande. Upon the recommendation of Dr. R. M. Swearingen, the State Health Officer, the law has recently been changed so as to relieve local boards of health of the responsibilities of this coast quarantine, and the Governor is authorized to appoint State quarantine officers, and has sole control of them in the enforcement of the quarantine laws. This change was inauguated in the spring of 1883, and stations have since been established and equipped at the six ports of entry, as follows:

At Brazos de Santiago, near the mouth of the Rio Grande, and covering the port of Brownsville, the commercial gateway to the lower valley.

At Aransas Pass, covering the gulf entrance to Corpus Christi bay.

At Pass Cavallo, the entrance to Indianola.

At Velasco, at the mouth of the Brazos river.

On the east end of Galveston island, for the port of Galveston.

At Sabine Pass, the terminus of the Texas Trunk railway.

Of these stations, that at Galveston is by far the most important, and its quarantine equipment is described by Dr. Swearingen as consisting of a steam tug fitted up with hot-air chambers and modern appliances for the disinfection of a vessel and cargo; a disinfecting warehouse with a capacity for treating 4,000 sacks of coffee at one time; and a station house—the whole plant representing an outlay of about $55,000.

The station is on the east end of the island, about two miles from the city. Vessels from suspected ports are inspected beyond the bar, ten or twelve miles southeast of the station, and are detained there, if considered dangerous, until the exact facts are determined. If actually infected, they are not permitted to cross the bar, but are ordered to the Ship island refuge station. If from an infected or interdicted port, a quarantine of detention of twenty days is rigorously enforced, during which period the cargo may be removed by lighters to the disinfecting warehouse, and the vessel be suitably treated.

From May 1 to the close of the quarantine season in November, 1884, 959 vessels were inspected at this station, and 17 of these were subjected to the 20 days' detention. All vessels are inspected coming from south of 25° north latitude, and the enforcement of the regulations results in a practical exclusion of vessels from Mexican, Cuban and Brazilian ports during the summer and fall.

Yellow fever is the disease most dreaded, and the quarantine system has been framed and heretofore administered with reference to its exclusion. The Mexican authorities have coöperated by establishing a quarantine at Bagdad in aid of the station at Brazos Santiago covering the lower mouth of the Rio Grande, and have adopted the same rules and regulations as those enforced at the Texas ports.

An inspection of transatlantic steamers with reference to cholera is now maintained at the six Texas stations and will be continued throughout the winter. As late as November 10th, of this year there were several steamers from cholera-infected ports on the Mediterranean detained in quarantine off Galveston. The vessels are not allowed to come to the wharf, but are unloaded and loaded again by lighters.

A communication from State Health Officer Swearingen to the Governor of the State, commenting upon the efforts to establish an international quarantine, incidentally but fully sets forth the principles upon which the Texas quarantine system is based:

Another very material variance between the authorities of the State and those of Mexico, is the length of time thought to be necessary for vessels from infected places, or places liable to infection, to remain in quarantine before granting them free pratique. The Mexican Congress of Hygiene limits the period to ten days, for what they are pleased to designate "the rigorous quarantine," while in Texas twenty days is the universal rule.

If we had disinfecting warehouses at every port of entry, and steam tugs supplied with powerful exhaust fans that could drive out the impure air from the holds of ships, and immediately after force into every nook and crevice germicidal gases, the ten days' period of detention would probably be sufficient, but without these appliances of purification, a longer time unquestionably gives greater security.

In making the above declaration, I do not lose sight of the fact that an infected vessel, without treatment of any kind, at the end of twenty, thirty or even sixty days quarantine, is possibly more dangerous than on the first day of arrival. The history of yellow fever gives abundant evidence that the poison does not retain its infectious quality for a long period when exposed to pure air, and that its proliferous properties are lost. The reverse is equally true. In warm, moist, impure air, its infectious quality seems to have no limitation, and of course such condition must favor its multiplication.

With these facts conceded, the corollary is unavoidable, that the number of germs will increase when left undisturbed in the hold of a vessel, where all these favorable conditions are found. Without a warehouse for transferring goods, we cannot, in ten days, by opening every aperture for ventilation, by shifting cargo, pumping out bilge water, and the free use of germicidal gases, so disturb the condition of things as to pronounce the ship, crew and cargo innocuous.

Again, all persons are not equally susceptible to the poison of yellow fever, and the period of incubation does not usually commence the first day of exposure. If such was not the case every unacclimated person in an infected city would be down about the same time, and epidemics would be confined to a few days, instead of a few weeks. Assuming, then, that the cargo of a ship is infected, and that it would take ten days for the crew to discharge it, the probabilities are that with the majority of them the period of incubation would commence on the eighth, ninth or tenth day, instead of on the first, second or third day, after the work of discharging had exposed them to infection. It follows, then, that a ten days' quarantine, when each day brings additional exposure to those who must handle the infected goods, offers every opportunity for the germs of yellow fever to be inoculated before the period of detention expires, and for the denouement to be made afterwards. * *

Twenty days quarantine for ships from interdicted places, ten for handling cargoes and ten more to give time for incubation, has been the rule so long governing the ports of Texas that it might be properly classed among the unwritten laws of the State. It is a conservative period, a kind of half way chronological station between the opponents of quarantine on one side, and the advocates of total non-intercourse on the other. Under that rule we have had no epidemic, nor have our commercial relations been seriously impaired by it. The guarantee given of freedom from infectious diseases more than compensates for the losses sustained by a policy that must necessarily divert certain currents of trade into other channels.

The people of Texas, satisfied with the system under which they have prospered for so many years, will be unwilling to take new departures, until the etiology of yellow fever is more fully comprehended, and science discovers more powerful agents for its destruction than we now possess. With due deference to the distinguished sanitarians who compose the Congress of Hygiene in our sister republic, we could not accept the ten days' period of detention "as a base for any agreement that might be entered into."

Since the date of the letter from which the foregoing extracts are made (September, 1885) the "appliances for purification" have been furnished at the Galveston station. But Dr. Swearingen remarks in a recent letter to me, "although we have (at Galveston) every facility for inaugurating a quarantine more in harmony with the views of sanitarians, our people are not yet prepared for experiments."

As to land quarantines, Dr. Swearingen says: Railways in Mexico make it possible for persons, freight, etc., to be transported from Vera Cruz to any city in Texas within five days via El Paso or Laredo. Quarantine stations for the first time were this year established at those points. I have not attempted even an inspection service against small-pox in Mexico. It would be purely ornamental if I did so.

The Rio Grande is a shallow stream, and from El Paso to Brownsville by the river bed is probably two thousand miles. Smuggling is carried on extensively, and the United States government cannot prevent it. A quarantine officer at any point would only be a notice to these organized bands, and to the travelers of both republics, that they would have to cross the river higher up or lower down, "only this and nothing more."

I can enforce with some reason an embargo against persons from Vera Cruz when yellow fever prevails there, for that city is the only nidus of infection, but when small-pox is all over the country, the extreme folly of such a thing as an inspection at railway crossings, is too apparent to be discussed.

Should cholera be introduced into Mexico and become epidemic there, the same conditions would then obtain with reference to the exclusion of that contagion. Dr. Swearingen adds, however, that Texas "will coöperate with the authorities of other States, in any defensive action against cholera importation that may be indicated by the American Public Health Association."

National Refuge Stations:

There still remains to notice the Refuge stations in Sapelo Sound—off the coast of Georgia—and on Ship island on Mississippi Sound. These were originally projected by the National Board of Health as part of a system intended for the protection of the minor ports, by providing fully-equipped establishments for the care and treatment of infected vessels.

Only the Ship island station was completed on an adequate scale, and its chief importance as a safeguard to the Mississippi river and the ports of New Orleans has been largely superseded by the establishment of a refuge station in Pas a L'Outre by the Louisiana State Board of Health.

These stations, Sapelo Sound and Ship island, are now in charge of the Marine Hospital Service, together with those in Hampton Roads and at the Delaware Breakwater, already described.

C.—Sanitary Council of the Mississippi Valley.

SANITARY COUNCIL OF THE MISSISSIPPI VALLEY.

The Seventh Annual Meeting of the Sanitary Council of the Mississippi Valley was held in the city of New Orleans on Tuesday and Wednesday, March 10th and 11th, 1885, at the rooms of the Louisiana State Board of Health, representatives from the following organizations being present:

Illinois.—W. A. Haskell, M. D., W. R. Mackenzie, M. D., State board of health; J. M. Hall, M. D. Chicago health department; R. E. Starkweather, M. D., Chicago medical society; J. L. Million, M. D., Springfield board of health; James E. Cowan, M. D., health commissioner, Galesburg; B. T. Buckley, M. D., health department, Freeport; A. N. Kimbrough, M D., Vermilion county medical society; John H. Rauch, M. D., State board of health, Secretary of the Council.

Iowa.—W. S. Robertson, M D., President State board of health; A. W. Cantwell, M. D., health commissioner, Davenport.

Kentucky.—Pinckney Thompson, M. D., President State board of health.

Louisiana.—Stanford E. Chaillé, M. D , National board of health; Joseph Holt, M. D., President State board of health; S. S. Herrick, M. D., Secretary State board of health; Hon. A. W. Shakspeare, State board of health; Hon Edward Fenner, President New Orleans auxiliary sanitary association: W. H. Watkins, M. D., Sanitary Director New Orleans auxiliary sanitary association; D. C Holliday, M. D. New Orleans medical and surgical association; Gustavus Devron, M. D., Hon. T. G. Ryan, New Orleans city council.

Michigan.—Henry F. Lysler, M. D., State board of health; R. C. Kedzie, M. D., American public health association.

Minnesota.—D. W. Hand, M. D., President State board of health.

Mississippi.—Howard P. Brisbane, M. D., health officer, Vicksburg.

Ohio.—Prof. Edward Orton, President State sanitary association; G. C. Ashmun, M. D., health officer, Cleveland; C. W. Rowland, health officer, Cincinnati; L. C. Carr, M. D., Cincinnati college of medicine and surgery.

Tennessee.—Daniel F. Wright, M. D., State board of health; Hon. David P. Hadden, President legislative council, Memphis, President of the Council.

West Virginia.—L. D. Wilson, M. D., State board of health.

Wisconsin.—K. Hoegh, M. D., State board of health; R. Martin, M. D., health commissioner, Milwaukee.

United States Navy.—A. C. Rhodes, M. D., medical director, U. S. N.

Before proceeding with the regular order of business, Dr. Joseph Holt, President of the Louisiana State Board of Health, welcomed the Council, on behalf of his Board and of the city of New Orleans, in the following address:

Gentlemen, the Delegates of the Sanitary Council of the Mississippi Valley:—With unfeigned pleasure the Board of Health of the State of Louisiana welcomes you not only to our State and city, but to the enjoyment of our most cordial hospitality here in the office of the Board itself. begging you to make this your rendezvous, where each one will find himself in a new house, but among old friends.

We do not tender this as an obligation to the strangers within our gates, nor are we in the formal relation of host and guests, but as members of one family we greet you. Identity of purpose, unity of spirit, together with the relationship of States, have made us kith and kin. There is not a feature but is possessed in common by us and declares the family likeness. Most conspicuously, we are the representatives, not of ourselves, not of personal theories, caprices, petty aspirations, nor of some friends at home, but of that great unit, the Mississippi Valley. We are the conservators of its public health, upon which the happiness and material prosperity of its teeming millions directly depend.

It is impossible for the mind to over-rate the magnitude of this question involving the maintenance of the public health. It radiates, divides and subdivides, until we find entangled in its meshes the most important interests of the State, the growth and prosperity of every city and hamlet, of every family, and the existence and happiness of every individual member thereof. Capital and labor are alike involved. When we think for a moment of ourselves as we truly are, the custodians of so great a trust as is confided in us, the conscience and judgment are bound to admit that any intrusion of self, whether from pride or the spirit of general combativeness, is inimical to the public welfare, and seems but little less than criminal selfishness and audacity.

The convocation of this COUNCIL was exceedingly wise—how else could we understand each other?—the first step toward mutual assistance. A very large majority of the controversies existing between men are brought about by misapprehension or a misinterpretation of the intentions of each other. We first become suspicious, then hostile. To remedy this is very simple: First, to feel assured, each of his own purity of heart and singleness of purpose, and then to credit our neighbors with the same virtues. A little plain, honest talk, and open, above-board dealing will wipe away all differences that ever have occurred or may occur.

And now, gentlemen, having welcomed you, let us have a little of this plain talk.

The Board of Health of the State of Louisiana recognizes not only its membership in this family council, but is sensible of the singularly important position it occupies, and of the responsibility resting upon it in its office as janitor at the gateway of the Valley of the Mississippi. Holding the most important sanitary outpost, perhaps, on this Continent our responsibilities are not limited to the protection of New Orleans and Louisiana, but we also hold in trust the safety of the millions of people inhabiting the Interior.

We boldly maintain the principle of State's rights, but we fully recognize that our fellow-citizens of adjoining and interior States have natural rights in every question of protection which we are bound to respect, whether it be the invasion of a foreign enemy or a foreign pestilence. They have, too, a perfect equality with us in every question affecting commerce through the Mississippi and the Gulf. Our sentiments on this subject have already been published to the world. Holding the keys as janitor at the gateway of the great Valley of the Mississippi, Louisiana is compelled, by every obligation, to recognize the importance of her trust.

She can no longer bolt and double-bar these doors, six months out of the twelve, with an antiquated quarantine of detention, when, through a scientific sanitation, it is optional to fling open the entry of this National highway, this inland sea, to the unobstructed ingress and egress of all who may apply. The interior States of this Continent have a natural right in every question touching the navigation of the Mississippi, from its head waters to the Gulf. They have a right to free pasturage in the commercial fields beyond. This claim is supreme, and one we must heartily allow.

We recognize other questions of right in this matter. Occupying the delta of the Mississippi, and therefore exceptionally exposed, it is, in our opinion, neither equitable nor proper that Louisiana should bear the entire brunt of expenditure in fending from our shores an invading fleet or an invading pestilence. As we are by no means the only ones who enjoy the security to life, the peaceful occupancy of our homes and the fruition of our labors by the successful repelling of such invasions, it is only fair that all concerned should alike contribute their full proportion of expense. It follows, therefore, that we have a right to call upon the National Government to aid us in warring against these common enemies, yellow fever and cholera. The Louisiana State Board of Health not only petitions, but demands this, as just and fair. As to the question of the channel through which such assistance shall be applied, we have perfect faith in the wisdom of the President of the United States.

We confide in the integrity, the sense of justice and soundness of judgment of the overwhelming majority of these States of the Mississippi Valley, represented in this Council to-day. We are now in line with you, gentlemen. When we were young in office we approached these questions not only with delicacy, but with fear. You were strangers to us, and we suspected danger at every turn. Since that time free association with you has dispelled these doubts. The deep villain in a heavy tragedy has turned out, upon acquaintance, a most agreeable gentleman. Being afraid of you at first, we now consider you one of ourselves.

In the opinion of the Louisiana State Board of Health there is no reason why the most perfect harmony and unity of action, as we all have unity of purpose, should not exist at all times between these several elements composing this Council. In times of danger, as in times of actual disaster, so far from being opposed and wrangling over petty differences, we should be more solidly united. When it is our cue to fight we can draw a valiant sword and smite with it, but our line of interest is not in controversy, but in peace.

Delegates of the Council, I again bid you welcome.

At the conclusion of Dr. Holt's address the President of the Council, the Hon. D. P. Hadden (Tenn.), assumed the chair, and the regular order of business was proceeded with.

The minutes of the Sixth Annual Meeting, held at Memphis, Tenn., March 21, 1884, were read and approved.

The Secretary presented the following annual report:

Mr. President: It is a subject for congratulation that, during the interim since the last annual meeting of the Council, there has been nothing in the public-health conditions of the Valley necessitating action on the part of the Executive Committee or any of the officers.

The year has been a satisfactory one, in that it has been characterized by freedom from excitement or alarm with reference to the actual existence or threatening of the class of epidemic diseases with which the Council is especially concerned. It is true that the extension of Asiatic cholera from Egypt to Southern Europe, and its probable introduction into this country, awakened some apprehensions during the summer and fall: and, as the members of the Council are aware, representatives of State boards of health and of municipal health organizations of the United States and Canada, together with the quarantine officers of many ports assembled in conference upon this subject during the month of October in the city of St. Louis, and again at the National capital in December. The action had at these conferences has already been fully published in the public press and in the various medical and sanitary periodicals, so that the members are doubtless familiar with the matter, and it is only necessary here to allude to it.

Following the line of action hitherto pursued by the Council,—that is, to be prepared for emergencies and to have a definite plan decided upon in advance—I have to suggest that a committee be appointed to formulate, and report to this meeting, the measures which should be adopted and carried out by the Council in the event that action becomes necessary through the appearance of Asiatic cholera at any point in the Valley.

The measures to be enforced in such case would include: 1) A prompt notification of the outbreak. 2) The local treatment of the outbreak. 3) Supervision of travel from the infected point.

Concerning the first of these there is little new to be said; but I think it desirable that specific instructions be prepared with reference to the local treatment of an outbreak, including the duties of the health authorities; the provision of hospital facilities, and of accommodations for those removed from infected buildings or localities; the action concerning water-supply; the subject of disinfection and disinfectants; in the care of water-closets and privies, especially those belonging to public buildings, hotels, schools, factories, workshops, railway stations, etc.; the daily personal examination of those living in the vicinity of a cholera case, and the prompt treatment of diarrhea, cholerine or other suspicious symptoms among such; the securing of early reports of cases by the attending physician, and other details.

In my judgment, also, a cholera outbreak would demand an extension of the system of sanitary inspection and supervision to travel by rail as fully at least as the system has hitherto been applied to travel by water with reference to yellow fever. Owing to the mode of the diffusion of the cholera poison, and the greater magnitude of railway travel as compared with that by river, this is a matter of much importance. All cases of diarrhea or looseness of the bowels, among travelers, should be carefully and continuously watched, and the dejections be thoroughly disinfected. Water-closets and privies at railway stations should receive strict attention: and it is highly desirable that the closets on passenger coaches should be so arranged as that every dejection may be disinfected before discharging it on the ground, to be possibly washed into a water-supply or to affect workmen on the track, etc., and thus extend the disease.

No train or boat should be allowed to proceed without being properly supplied with disinfectants and the ordinary cholera or diarrhea remedies, with plain, specific directions for their use and for the care and treatment of a cholera patient until a physician can be procured.

It has been suggested that the COUNCIL would do well to issue instructions to the public similar to its address on general sanitation in 1879, to be published in the newspapers and otherwise, respecting the measures, both public and personal, which should be adopted to prevent cholera and also to limit its ravages if once introduced. It is urged that such advice from the COUNCIL would be heeded and do good.

I would also suggest that a communication be addressed to the chairman of the Committee on Disinfectants, appointed at the meeting of the American Public Health Association, requesting that a plain, practical paper on disinfection and disinfectants; for popular use and distribution, be furnished to the executive committee of the COUNCIL, and that the committee be instructed to procure its immediate and widespread publication.

It is taken for granted that there will be entire harmony of action and the fullest coöperation possible between the various organizations represented in the COUNCIL. The Illinois State Board of Health is pushing a sanitary survey of the entire State, which, in the State outside of Chicago, will cover 330,000 houses. This is supplementing the work begun last July and continued until cold weather. It is hoped that by the middle of May this inspection will be finished and the sanitary defects and evils thereby disclosed will have been remedied, nuisances abated, and the whole State put in the best possible condition to resist cholera, yellow fever and all other epidemic, contagious and infectious diseases.

A contingency appropriation of $85,000 has been asked for from the General Assembly, now in session, to be used in quarantining, inspecting, disinfecting, caring for cases of epidemic and contagious diseases, etc., at twenty-four different points of entrance of important railroad lines along the eastern and southern boundary of the State, and at the necessary points on the Ohio and Mississippi rivers, as well as for defraying the expense of the necessary measures for preventing the spread of such diseases from point to point within the State, should they or any of them be introduced.

These two measures—the sanitary survey and the State quarantine—will, if successfully carried out, render Illinois practically independent of outside assistance or coöperation. Therefore it is conceived that the delegate representing that State Board of Health may, without offense, urge upon other representatives in the COUNCIL the necessity for such action as will insure the greatest measure of protection to the public health of the entire Valley. Her commercial interests, her geographical relations, and her position as the great entrepôt and distributing point for immigrants to all parts of the Valley, make the health conditions of every part of the country, from the St. Lawrence to the Rio Grande, matters of supreme importance to Illinois.

While protecting her own borders, she is ready and willing to aid and coöperate with others, and to do at least her full share in protecting the health of the Valley. And, as already intimated, it is believed that such protection requires the formulation of a definite plan of action for the Council in the event that Asiatic cholera makes its appearance in the country; popular instruction and information concerning the measures which should be at once instituted in order to prevent such introduction, or to limit its spread; the vigorous prosecution of these measures as soon and as long as the weather will permit; and guarantees from the representatives here present of concert of action and mutual coöperation on the part of their respective organizations, so as to inspire public confidence in the work of the Council and of health authorities everywhere throughout the Valley.

Such confidence is one of the most valuable factors in preventing an epidemic, especially a cholera epidemic, toward which fear is one of the most potent predisposing causes. As to the possible advent of yellow fever, I do not see that anything special need be said. What can be done has been already demonstrated, and the prospect of successfully dealing with the subject in the future is certainly as encouraging now as at any previous time. With the various State and local organizations coöperating in good faith, the protection of the public health in the Valley would seem fairly well assured—either by guarding against the introduction of foreign pestilences on the one hand, or by limiting their spread on the other.

All of which is respectfully submitted.

John H. Rauch, *Secretary.*

Dr. Pinckney Thompson (Ky.) moved that the Secretary's report be received and that a special committee, to consist of Drs. Kedzie (Mich.), Holt (La.), Chaillé (N. B. H.), Rauch (Ill.), Robertson (Ia.), and the President, Hadden (Tenn.), be appointed to formulate an expression of the views of the Council concerning the measures necessary to the exclusion of Asiatic cholera and yellow fever from the Mississippi Valley, and the limitation of their spread should they be introduced. Adopted.

The Treasurer submitted his annual financial statement, which was received and referred to the Committee of Audit.

Dr. Rauch (Ill.) moved that the representatives of the State Boards of Health, members of the Council, submit statements of the precautionary measures being adopted in their several localities, and of the sanitary conditions prevailing. The motion was adopted and the meeting adjourned to noon of Wednesday, the report of the special committee being made the special order of business for that hour.

WEDNESDAY, March 11. The COUNCIL met as per adjournment, present as before, and the following report was received:

MR. PRESIDENT:—The committee appointed by the SANITARY COUNCIL OF THE MISSISSIPPI VALLEY to formulate a system of concerted action by the States and municipalities represented in the COUNCIL, to prevent the introduction of foreign epidemics into the Valley, and to prevent their spread, if introduced, respectfully present the following report:

The ever-recurring danger of an irruption of yellow fever and the imminent danger of an incursion of Asiatic cholera from European ports, causes all eyes to turn with solicitude to the gateway of the Mississippi. New Orleans is the Thermopylæ of the Mississippi Valley. If sanitarians valiantly "hold the pass" all is secure beyond. Defect here means disaster to the imperial region drained by the Father of Waters.

The quarantine of simple detention has so far passed away that it now requires a mental effort to realize that it means forty days. Detention by itself is neither preventive nor curative.

Its period of duration cannot be fixed arbitrarily, but must be determined with reference to two objects:

1st.—Observation.

2d.—Sanitation.

Observation—to await the development of the particular contagium in those already, but not obviously, infected. As the time required for this development—the period of incubation—varies with the character of the disease, it is obvious that no uniform term can be set. A longer period of detention is required for yellow fever than for Asiatic cholera, and a still longer period for small-pox than for yellow fever.

Sanitation—including the cleansing, disinfection and sanitary treatment of ships, cargoes, passengers and crews. The sanitary treatment to be given a ship arriving from a foreign port will depend in a large degree upon its previous history as well as its present condition. For example, an old wooden vessel which had previously been infected with yellow fever would require more thorough and prolonged disinfectant treatment than a modern iron or steel hull steamer, on which the disease appears for the first time. The prodroma of cholera are sometimes so indefinite—what seems to be a simple diarrhea finally developing into, or causing, an attack of true cholera—that it is important to know whether the ship comes from a port where cholera prevails, before final decision is made in regard to danger from this disease.

It becomes, therefore, a matter of vital necessity that health officers shall receive early and full information of the existence of epidemic diseases, such as yellow fever, cholera and small-pox, in the foreign ports in commercial relations with this country.

The SANITARY COUNCIL OF THE MISSISSIPPI VALLEY earnestly petitions the honorable Secretary of State that he cause the consuls and consular agent of all ports from which ships clear for the United States, to furnish not only the usual information embraced in bills of health, but all particulars in regard to the existence of contagious, infectious or epidemic diseases, which may endanger the public health by importation through vessels reaching our shores.

The best method of quarantine should begin its work at the port of departure and be completed at the port of entry, to include approved methods of ship sanitation under competent authority, pending the voyage of a vessel from one port to another. The hazards of importation of infectious diseases would certainly be immensely reduced if there could be a guaranty that all vessels loading in foreign countries for ports in the United States are thoroughly cleansed and rendered non-infected before receiving their cargoes. Such a system of international sanitation, by preventing the shipment and exportation of disease, would insure safety and promote commerce.

The Sanitary Council regards the exclusion of all vessels unmistakably infected with cholera or yellow fever from the Mississippi river as vital to the safety of the West, South and Northwest. The Council, therefore, petitions the honorable Secretary of the Treasury to place a revenue cutter at the mouth of the Mississippi river to prevent the entrance of all such infected ships, and to send them to the Ship island, or other, refuge, station, for quarantine and purification.

If, however, an infected vessel, or one suspected to be infected, enters the Mississippi river, the State Board of Health of Louisiana should remand such vessel to a station of detention and absolute isolation until all danger of the spread of the disease from ship, cargo, crew and passengers has been entirely removed; the ship to be thoroughly cleansed and disinfected; the cargo and baggage thoroughly disinfected, and the crew and passengers kept under observation until free from all suspicion of danger to the public health.

The Sanitary Council is gratified to learn that Congress has appropriated a sum of money to be placed in the hands of the President of the United States, to be used, in his discretion, in aid of State and local boards of health, in the event of an actual or threatened epidemic of cholera or yellow fever, in preventing the introduction and spread of the same, and in maintaining inspections and quarantine at points of danger. Asiatic cholera threatens an incursion into the United States in the near future, and realizing—in the interests of life, health, and commercial and industrial welfare—the vast importance of such preventive measures and adequate preparations for effective quarantine before the advent of foreign pestilences, so that they shall not come upon us defenseless and unprepared, the Sanitary Council respectfully but earnestly petitions the President of the United States to immediately convene the National Board of Health, and authorize its use of so much of the epidemic contingent fund as may be necessary for preparing, and promptly enforcing, a vigorous system of preventive measures in coöperation with, and in aid of State and local health organization, with especial reference to Asiatic cholera.

In the event of cholera or yellow fever, the first condition of concert of action among health officers is mutual confidence. This can be secured only by early, full and free information of all the essential facts at points of outbreak. To secure such information,

Be it resolved, That each and every health organization represented in this Sanitary Council hereby pledges itself to promptly furnish to every other organization all information in regard to the appearance of cholera and yellow fever, or suspicious cases of cholera or yellow fever.

The committee recommends that for the purpose indicated in the above resolution the following groups of symptoms shall be considered to indicate yellow fever and suspicious cases:

I. Groups of Symptoms which shall be Considered to indicate Yellow Fever.

Group 1.—A person, after a sudden attack, has a fever of one paroxysm, attended with marked congestion or blood stasis of capillaries of surface, conjunctivæ and gums, with a history of probable exposure to infection, and no history of a previous attack of yellow fever.

Group 2.—A person, after a sudden attack, has a fever of one paroxysm, followed by unusual prostration, albuminous urine, yellowness of conjunctivæ and skin, and having no positively authenticated history of a previous attack of yellow fever.

Group 3.—A person has a fever of one paroxysm, albuminous urine, black vomit, suppression of urine, general hemorrhagic tendency, under circumstances where exposure to infection is a possibility.

II. Suspicious Cases of Yellow Fever.

The following symptoms associated with a fever of one paroxysm, in a patient who has apparently been exposed to infection, and has never had yellow fever, shall be held to justify in either of the six following cases a suspicion of this disease, viz.:

1. Suddenness of attack, either with violent pain in the head and back, injected eyes and face, or with marked congestion of the superficial capillaries.
2. Want of that correlation between pulse and temperature usual to other forms of fever.
3. Albuminous urine.
4. Black vomit.
5. General hemorrhagic tendency.
6. Yellowness of the skin.

The following cases shall also be deemed suspicious:

7. Any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not yellow fever.
8. Any case respecting which efforts are made to conceal its existence, full history and true nature.

In the event of death of a suspicious case a post-mortem examination should be made when practicable. Both before and after death, yellow fever is especially and pre-eminently characterized by the fact that it is, par excellence, a hemorrhagic fever, marked by capillary congestion and its sequelæ; hence, post-mortem evidence of a general hemorrhagic tendency in internal organs, especially in the digestive, in preference to the urinary tract, shall be held to confirm the suspicion.

The following conditions shall be held to justify a suspicion of Asiatic cholera, and to require from sanitary authorities the same preventive treatment as if known to be cholera:

1. Any case of disease resembling cholera and attended with "rice-water evacuations," shall be reported and treated either as cholera or as a suspicious case.
2. Any case respecting which reputable and experienced physicians may disagree as to whether the disease is true Asiatic cholera or not, shall be reported and treated as suspicious.
3. Any case rumored to be cholera, and respecting which efforts are made to conceal its existence, full history and true nature, shall be reported and treated as suspicious.
4. Any notable and exceptional increase in the number of cases of, and of deaths by, such bowel disorders as cholera morbus and diarrhea, shall be promptly reported.

Concerning the sanitary supervision of commercial and personal intercourse during the existence of cholera or yellow fever, the committee recommends a revision and modification of the rules and regulations which have governed the inspection service in the Valley during the past six years—such revision and modification to be made for the purpose of embracing the contingencies and the special features of Asiatic cholera, as well as of yellow fever.

Your committee further recommends that a special committee of three members be appointed, to prepare an address on General Sanitation, and the details of precautionary measures for the prevention of epidemic diseases, and especially of Asiatic cholera, together with such revision of the rules and regulations above referred to as may be deemed necessary—with power to publish in behalf of the Sanitary Council.

All of which is respectfully submitted.

R. C. Kedzie, *Michigan.*
S. E. Chaillé, *N. B. H.*
W. S. Robertson, *Iowa.*
David P. Hadden, *Tennessee.*
John H. Rauch, *Illinois.*
Joseph Holt, *Louisiana.*

The report was received, adopted as a whole, and ordered published as the report of the Council.

During the discussion which ensued upon the reading of the report, the Secretary read the following telegram which he had received the day previous:

Chicago, March 10.—Dr. John H. Rauch, New Orleans: Official reports showed cholera present in Paris constantly up to the time I left, January 20, though very cold and snowy. Think it well to be on the alert. Sorry I returned too late to be with you.
Charles W. Purdy.

Dr. Hand (Minn.) moved that the various petitions to the President of the United States, and to the Secretary of State and Secretary of the Treasury, recommended in the report of the special committee, be prepared and forwarded by the Secretary. Carried.

Dr. Kedzie (Mich.) moved that Drs. Rauch (Ill.), Holt (La.) and Thompson (Ky.) be appointed as the committee to prepare the address on General Sanitation. Carried.

On motion of Dr. Chaillè (La.), the following resolution was adopted:

Resolved, That the Secretary request from the chairman of the Committee on Disinfectants, appointed at the last meeting of the American Public Health Association, a plain, practical paper on disinfection and disinfectants, for popular use and distribution, to be furnished to the chairman of the special committee on General Sanitation.

On motion of Dr. Thompson (Ky.), it was resolved that the various State boards of health represented in the Council express to the President of the United States their views as to the employment of the contingent fund recently appropriated by the National Congress for sanitary purposes, and that this action of the Council be transmitted to the various boards.

The various States represented in the Council were then called upon to furnish the meeting, through their delegates, with a report of the sanitary work being performed by them.

Dr. Holt, representing Louisiana, spoke of the excellent health of New Orleans at present, and the perfect accord with which the various sanitary associations are working.

Dr. Devron said New Orleans was fully awake as to its duty in sanitary questions, and as a member of the city council he was pleased to say that he concurred with Dr. Holt as to the perfect accord of the Council, Board of Health and Auxiliary Sanitary Association. He reviewed the various large sums expended by the city for levees, draining-machines and dredge-boats, and assured the Council that should an epidemic threaten the city the authorities would, with the State Board of Health and Sanitary Association, find the necessary funds to stamp it out.

The Hon. Edward Fenner, President of the New Orleans Auxiliary Sanitary Association, supplemented the statements of Drs. Holt and Devron with the following resumé of the history, objects and operations of that organization:

MR. PRESIDENT AND GENTLEMAN OF THE SANITARY COUNCIL: As I remember the resolution adopted by your body yesterday, calling upon representatives of boards of health to submit statements of the measures being adopted in their several localities and the sanitary conditions prevailing, the words "and other health organizations," were included. Whether I am correct or not, my past experience, as an old member of your COUNCIL, assures me that a report from the New Orleans Auxiliary Sanitary Association will not be considered obtrusive.

This Association, which I have the honor to represent, is a voluntary body organized under the laws of Louisiana in the year 1879. Its members and contributors number several thousands of the most intelligent and progressive citizens of New Orleans. Its corporate powers are vested in an Executive Committee composed of fifteen members elected annually. Said committee at its annual meeting elects a President, nine Vice Presidents, a Treasurer, Sanitary Director, Secretary and Corresponding Secretary.

The purposes of the corporation are the execution of such measures as may be necessary for the preservation of life and the public health, and to prevent the introduction or spread of disease; and to these ends to adopt systematic measures for the collection and proper distribution of money or property derived from voluntary subscription, or otherwise, in such manner as will tend to preserve life and property, and promote the prosperity and health of New Orleans.

The functions, powers and responsibilities of two of the most important officers of the Association are thus defined:

"The duty of the Treasurer shall be to take charge of the funds of the Association, to appropriate the same as directed by the Executive Committee; to keep fair and regular accounts, subject at all times to investigation by order of the Association or Executive Committee, to exhibit the same at the annual meeting, together with a statement of the funds in his possession, and he shall give satisfactory security, to be approved by the Executive Committee and the President, for the faithful performance of his trust.

"The Sanitary Director of this Association shall have power,

"1st. To appoint, remove and direct all sanitary officers and their subordinate employés, who shall obey and execute his orders, and report all their acts to the Executive Committee through the office of the Medical Director; such appointments, removals, acts and orders shall be subject to the approval of the Executive Committee.

"2d To prescribe and execute measures of inspection and auxiliary precaution against the introduction or dissemination of infectious or contagious disease.

"3d. It shall be his duty to make an estimate of the amount necessary monthly for the payment of the salary and wages of the officers and their subordinates, for the purchase of materials and implements, as also of any extra service or labor, incidentally necessary for performing the duties of inspection. He shall present the bills for such estimate, together with the requisition for the payment thereof, to the Finance Committee, who shall audit such bills and estimates before payment thereof.

"4th. To visit all vessels and other vehicles, buildings or other places in which cases or symptoms of infectious or contagious disease may have manifested themselves, and to adopt such immediate measures not incompatible with the corporate powers and obligations of this Association as may be proper to prevent the introduction or arrest the spread of such disease.

"5th. To report at least weekly to the Executive Committee the communications he may have received, the business he may have transacted, with such other matters as may in his opinion require the consideration of the Committee, with such professional advice as may appear to him pertinent to the object of this Association."

This cursory review of our organization I deem necessary for the information of those who have but recently become members of the SANITARY COUNCIL OF THE MISSISSIPPI VALLEY. I will not encroach upon your valuable time by relating the work that has been done by the Sanitary Association, a very important part of which has been educational, in that it has brought the public mind, as never before, to consider the imperative necessity and the inestimable value of sanitation as a preventive measure. Our Association, composed as it is in greater part of laymen, derives, as you may suppose, the inspiration which directs its efforts from the Medical Director, and, it gives me the greatest pleasure to add, from the medical faculty of New Orleans and elsewhere. At times such intelligent and purely disinterested support has contributed in no small degree to re-animate not only the working members, but those citizens who, perhaps very naturally, are prone to think that six years of warfare against filth and all other promoting causes of disease must by this time have accomplished the object of our organization, and should render any further efforts or expenditures of money unnecessary. We, however, the working members, who have devoted these six years to the study of the means best adapted to banish for all time at least one ruinous disease from this locality, know but too well that the price of exemption is constant, unremitting vigilance—it may be for years to come—and firm, intelligent persistence in sanitary reform.

Death and removal from the city have deprived us of several active members, whom, strive as we may, we can never replace. With those exceptions, the Sanitary Association exists to-day as when first organized. The same men who gathered together in the dark days of 1879 to reclaim, with the aid of our intelligent citizens, the lost reputation of New Orleans, have not failed to devote much of their valuable time for the best interests of all.

For six years the Sanitary Association has earnestly striven to improve the sanitary condition of the city. Large sums of money, the voluntary contributions of citizens, have been expended in permanent sanitary works, and in aid of the present State Board of Health, to stamp out small-pox, which, in the winters of 1882-3-4, had increased to epidemic proportions. This the State board has most effectually done. To-day there is not a known case of small-pox in New Orleans. Our relations with the present State Board of Health are most friendly. We have the fullest confidence in the intelligence, the scientific methods and firm purpose of its members.

Should extraordinary causes compel our Association to come to the aid of our State board, as was the case last year, no human efforts will be left untried on our part to do so. And in conclusion, furthermore, let me assure you that an urgent call upon our citizens will not prove—it never has—in vain.

Dr. Rauch, of Illinois, referring to the passage in his annual report as Secretary of the Council, in which he had already outlined the work being done in his State, said that since his arrival in New Orleans he had received a telegram from Senator Cullom, in Washington, stating that Congress had appropriated $340,000 as a contingent epidemic fund, and had made a deficiency appropriation to cover the expenses of the National Board of Health for the past year, as well as a regular appropriation for its maintenance during the current year. He had little doubt that the President would select the National Board as the agency through which to administer the contingent fund, and believed the history of the Board justified the expectation that it would pursue, if so selected, the same judicious and efficient system in its relations with State and local boards of health as it had in the past. He was further reassured by the tone and temper of the present meeting of the Sanitary Council. It was obvious that much efficient sanitary work was being prosecuted throughout the entire Valley. The spirit of harmony which prevailed among the various organizations represented—and, without being invidious, he might refer to the present attitude of the Board whose guests, in some measure, they were—and the evident intent to heartily coöperate and aid each other in fighting the common enemy, inspired a feeling of confidence and security which was very gratifying.

These various considerations would cause him to modify his estimate of the contingency appropriation asked from the General Assembly of his State. With the coöperation and aid of the National Board of Health, with the individual effort of communities in pushing local sanitation, and with the concert of action of the various members of the Council, the burden, responsibility and expense of every State would be materially diminished. Meanwhile, he felt assured that the work of preparation would be vigorously prosecuted throughout the whole extent of his State.

Dr. Hand, of Minnesota, said that during the past year, they had had no active epidemic to contend with in Minnesota, and had devoted their attention largely to the education of the public mind, by means of printed circulars on sanitation and public-health conferences, as to the duties of citizens generally in regard to the prevention and spread of disease. "We have directed attention particularly to the water-supply of towns and cities, and are glad to find the people are becoming anxious on that subject.

"While no epidemics have prevailed, we have been greatly distressed by frequent sporadic outbreaks of diphtheria in many parts of the State. A committee of our Board has, for a long time, been studying that disease, but the only practical observation yet made is the fact of the disease nearly always arising from contagion. In consequence, we insist on rigid isolation and quarantine whenever it is practicable.

"In relation to the approaching cholera epidemic, our Board has been in close communication with the Secretary of the Illinois State Board of Health and the health officer of Chicago, as through their domain we may look for greatest trouble. The assurance of vigorous action on their part is a safeguard in itself.

"We have issued a circular-letter to all town authorities throughout the State, instructing them as to the necessity for a thorough cleaning-up this spring, and, so far as possible, a general sanitary survey, so that they may be prepared to meet, under the best attainable conditions, any case of cholera that may occur. Instructions to the people at large will only be issued when the epidemic has appeared on this side of the ocean.

"The Legislature which adjourned on *Friday* last appropriated as an epidemic fund, $15,000, to be expended by our Board and the Governor, and has shown great interest in the work we are doing. The Legislature also passed a number of bills looking to better sanitation throughout the State. One of these requires the organization of local boards of health in every town, village, borough and city, and specifies the organization and functions of such boards; it also provides the method of paying expenses incurred by such boards of health in the control of infectious disease.

"Another law is intended to prevent the pollution of rivers and other sources of water-supply, by giving to the State Board of Health general supervision of the same, providing for methods of procedure under the act and for enforcing the orders of the Board, subject to appeal to the district courts. Another regulates offensive trades, by giving to the State and local boards of health control of the same, as affecting health. A bill was also passed to prevent the spread of contagious diseases among cattle.

"Altogether we feel that there has been great improvement in the general understanding of sanitary matters in our State, and we are gratified that the Legislature so readily adopted our suggestions."

Prof. Orton, of Ohio, said his State had no board of health, but a number of physicians of the State have formed the Ohio State Sanitary Association. Ohio, however, has a rapidly growing interest in sanitary necessities, and much attention is given to them by the people at large.

C. W. Rowland, health officer of Cincinnati, said he concurred with the Professor. The State has given certain power to local boards which exist, but the power is not sufficient, and the local boards are seeking more. He then gave the COUNCIL an account of the workings of the local boad of health in Cincinnati. Nothing was discouraging in the sanitary condition of the city except the want of funds. The Board, however, is prepared for any advent of cholera.

Dr. Ashmun, health officer of Cleveland, said a board of health has been in existence there since 1873. Very little work was done during the past winter owing to the excessive cold. The Board, though, has made a thorough house-to-house inspection.

Dr. Wright, of Tennessee, said his State Board of Health could inspect, report, and advise, but had no power to act. He showed, however, how, in an indirect way, the Board had performed some very good work and obtained excellent results, especially as to vaccination.

Col. Hadden, President of the Legislative Council of Memphis, corroborated what was said by Dr. Wright. He spoke of the incomplete laws of the State as to vaccination and other sanitary measures, which are not compulsory. He thought, however, that the sentiment of the people was changing. He gave a long history of the sanitary system of Memphis, which, he said, was now perfect.

Dr. Lyster, of Michigan, gave a history of the workings of the Michigan State Board of Health since its organization in 1873. The nature of the work has been chiefly advisory, as the Board has very little power, but is constantly educating the people in sanitary measures, and the success in that direction has been marked.

Dr. Kedzie, also of Michigan, spoke of the importance of educating the people in sanitation. The work done by the State Board of Michigan was very efficient, and is continuously progressive.

Dr. Thompson, of Kentucky, said, though somewhat handicapped by the want of money, the Kentucky State Board of Health had done some good work in the past few years. In his opinion, nothing was more profitable and beneficial than the education of the people in sanitary measures, and it proved more efficacious than labored articles of boards and councils which are sent to doctors, who discuss the questions among themselves.

He gave an account of the sanitary measures adopted in Bowling Green, and explained the powers of the council in that city ordering the enforcement of sanitary measures.

Dr. Hoegh, of Wisconsin, explained that his State Board had only advisory powers, but through it a large number of local boards had been formed. Every precaution has been taken for the possible appearance of cholera.

Dr. Martin, health commissioner of Milwaukee, spoke of the excellent drainage-system of that city and the improvements being made in the water-supply. The city is extremely healthy.

Dr. Wilson, of West Virginia, reported that the State Board in that State was thoroughly organized, with certain sanitary authority, and local boards had been established throughout the State, with authority in their various counties.

Dr. Robertson, of Iowa, said that his State has done some good work, and the State Board is interesting the local boards by circulars and other methods of instruction and information.

Dr. Brisbane, of Mississippi, presented to the Council a memorandum of the projected sanitary work of the city of Vicksburg.

At the conclusion of these reports, Dr. Thompson (Ky.) offered a resolution which was adopted, requesting all boards of health, sanitary associations and societies to at once resort to all possible means to give the widest publicity to information calculated to enable communities and individuals to protect themselves from an invasion of cholera, and from all those causes which tend to spread the disease after it has been introduced—which resolution was adopted.

The meeting then adjourned to 7:30 o'clock in the evening.

WEDNESDAY EVENING, March 11, 7:30 o'clock. At the evening session the following named gentlemen were unanimously elected officers for the ensuing year:

PINCKNEY THOMPSON, M. D., of Henderson, Ky., President.
JOSEPH HOLT, M. D., of New Orleans, La., Vice-President.
JOHN H. RAUCH, M. D., of Chicago, Ill., Secretary and Treasurer.
W. H. WATKINS, M. D., of New Orleans, La., Assistant Secretary.

Appropriate remarks were made by the newly-elected officers—the Secretary-elect unsuccessfully protesting against his re-election to a post which he had filled for six years, and which made demands upon his time and attention which he could illy afford.

Dr. Rauch (Ill.) moved that the various petitions, addresses, etc., called for in the report of the formulating committee be prepared and signed by the Executive Committee, consisting of the President, Vice-President and Secretary. It was so ordered.

A resolution thanking the Illinois Central Railroad and all of its routes for favors extended to the COUNCIL, in furnishing transit to and from New Orleans, was adopted.

A resolution thanking Dr. Joseph Holt and the members of the Louisiana Board of Health and of the Auxiliary Sanitary Association for courtesies shown the COUNCIL during its session, was adopted.

Thanks were also tendered Col. Hadden, President of the COUNCIL, for the able manner in which he had conducted the affairs of the COUNCIL as President.

On motion of Dr. Robertson, the thanks of the COUNCIL were tendered to the press of New Orleans for the faithful reports made of the meeting.

Dr. Holt spoke in flattering terms of the great interest always taken by the New Orleans press in the sanitary measures proposed, and the able manner in which these measures were treated by them. He, therefore, heartily indorsed the motion.

A vote of thanks was then tendered the Secretary, and the Seventh Annual Meeting of the COUNCIL was declared adjourned *sine die*.

[ADDENDUM.]

SANITARY COUNCIL OF THE MISSISSIPPI VALLEY.

Office of the Secretary,
Springfield, Ill., March 16, 1885.

Grover Cleveland, *President of the United States.*

Sir: During the recent Seventh Annual Meeting of the Sanitary Council of the Mississippi Valley, held in the city of New Orleans, March 10–11, inst., the health organizations and commercial and transportation interests of twelve of the valley States being represented, a special committee was appointed to formulate an expression of the views of the Council concerning the action necessary to be taken by municipalities, States and the General Government with reference to the imminent danger of an invasion of Asiatic cholera during the coming season. The report of this committee was unanimously adopted by the Council, and it was subsequently

Resolved, That the Executive Committee be, and hereby is, instructed to forward to the President of the United States a copy of so much of the formulated views of the Council as relates to the use of the contingent epidemic fund and the National Board of Health.

In accordance with this instruction we have the honor to submit the following extract from the report as adopted by the Council:

The Sanitary Council is gratified to learn that Congress has appropriated a sum of money to be placed in the hands of the President of the United States, to be used in his discretion in aid of State and local boards of health in the event of an actual or threatened epidemic of cholera or yellow fever, in preventing the introduction and spread of the same, and in maintaining inspections and quarantine at points of danger. Asiatic cholera threatens an incursion into the United States in the near future, and realizing—in the interests of life, health and commercial and industrial welfare—the vast importance of such preventive measures and adequate preparation for effective quarantine before the advent of foreign pestilences, so that they shall not come upon us defenseless and unprepared, the Sanitary Council respectfully and earnestly petitions the President of the United States to immediately convene the National Board of Health and authorize its use of so much of the epidemic contingent fund as may be necessary for preparing and promptly enforcing a vigorous system of preventive measures in coöperation with, and in aid of, State and local health organizations, with especial reference to Asiatic cholera.

It is not believed that any argument on the merits of this request is necessary; but should your Excellency desire such, the Committee will take pleasure in responding to an intimation to that effect.

Very respectfully,

Executive Committee of the Sanitary Council:

Pinckney Thompson, *President.*
(Kentucky State Board of Health.)

Joseph Holt, *Vice-President.*
(Louisiana State Board of Health.)

John H. Rauch, *Secretary.*
(Illinois State Board of Health.)

D.—METEOROLOGICAL TABLES.

METEOROLOGICAL TABLES.

STATEMENT, *furnished by the Chief Signal Officer, U. S. A., showing the mean monthly barometer, reduced to sea level; temperature; relative humidity; total amount of precipitation in inches and hundredths; prevailing direction of the wind; and the total wind movement in miles—at the Signal-Service stations at Cairo, Chicago and Springfield, Ill., Dubuque and Keokuk, Ia., Indianapolis, Ind., and St. Louis, Mo., for the year 1885.*

SUMMARY FOR CAIRO, ILL., 1885.

MONTH.—1885.	Mean corrected barometer	TEMPERATURE.			Precipitation—inches	Mean relative humidity	WIND.	
		Maximum	Minimum	Mean			Prevailing direction	Total movement
January	30.198	61.0	—.4	29.8	3.49	75.9	N	6,321
February	30.061	67.0	0.6	31.9	1.48	66.2	NW	6,411
March	30.127	75.1	16.5	42.5	1.08	65.4	S	7,266
April	30.004	81.0	31.0	59.7	1.43	61.7	SE	8,075
May	29.928	89.3	40.2	65.6	3.21	67.7	N	5,157
June	30.033	92.0	53.2	74.5	4.63	71.2	N & SE	*4,746
July	29.986	95.8	62.1	80.0	0.82	74.9	S	3,819
August	29.966	94.8	54.5	76.5	2.40	73.3	S	4,881
September	30.006	85.4	50.6	69.3	4.76	76.9	N	4,264
October	29.990	78.1	38.8	55.9	2.89	73.3	N	4,534
November	30.049	75.6	27.7	48.7	2.79	67.3	W	6,067
December	30.145	62.7	11.4	39.0	3.01	65.8	S	6,674

*27⅔ days.

SUMMARY FOR CHICAGO, ILL., 1885.

MONTH.—1885.	Mean corrected barometer	TEMPERATURE.			Precipitation—inches	Mean relative humidity	WIND.	
		Maximum	Minimum	Mean			Prevailing direction	Total movement
January	30.122	50.4	—12.9	18.3	3.18	74.1	SW	7,316
February	30.003	47.2	—13.7	16.8	2.01	79.6	SW	4,934
March	30.066	57.9	4.4	30.0	0.57	75.7	SW	5,493
April	30.012	76.0	27.0	45.3	4.00	76.4	N	6,222
May	29.899	80.4	33.8	52.8	3.17	70.9	N	5,406
June	30.001	87.7	42.1	65.4	5.20	70.8	E	4,649
July	29.941	93.9	52.6	72.8	2.44	74.2	N	4,333
August	29.954	85.0	55.1	68.1	11.28	72.7	N	6,092
September	30.013	81.3	47.1	63.9	2.97	71.8	E	5,726
October	29.977	69.0	35.6	51.0	3.87	73.5	N	6,136
November	29.976	66.0	27.6	41.9	2.33	76.1	W	*6,185
December	30.061	50.3	—2.9	31.1	3.35	81.2	SW	6,700

*29⅔ days.

SUMMARY FOR SPRINGFIELD, ILL., 1885.

MONTH.—1885.	Mean corrected barometer....	TEMPERATURE.			Precipitation—inches........	Mean relative humidity......	WIND.	
		Maximum..	Minimum..	Mean......			Prevailing direction..	Total movement.....
January..................	30.190	53.9	—13.7	20.3	2.81	74 2	NW	6.337
February.................	30.046	54.8	—11 2	20.9	0 94	67.7	W	5,562
March..........	30.098	65 5	12.0	36.8	0 17	61 1	NW	7,493
April..........	29.977	76 2	30	51.7	6 36	68 0	S	7.577
May.................	29 897	82 4	38	61.4	2 78	62.9	NW	6 375
June......................	29.978	88.3	50	71.0	4.18	66 6	S	4.408
July.......................	29.931	96 2	53	78.1	1.82	67 0	SW	3,522
August..................	29.938	92.1	48	71.0	4.82	69.4	N	4,557
September...............	29.993	82 3	41 5	64.9	4.47	70.7	S	4.024
October..................	29.955	75.4	36.5	52 9	6.30	69 1	NW	5 569
November.....	29 974	70.2	29.8	45.6	1.44	68.1	NW	6,978
December................	30.091	58 0	6.0	35.6	2.52	69.9	S	7,335

SUMMARY FOR DUBUQUE, IA., 1885.

MONTH.—1885.	Mean corrected barometer....	TEMPERATURE.			Precipitation—inches........	Mean relative humidity......	WIND.	
		Maximum..	Minimum..	Mean......			Prevailing direction..	Total movement.....
January..................	30.155	46.8	—22.5	12.3	1.80	50.3	NW	3,730
February...........	30 036	48.0	—20 0	13.3	0 72	62.8	W	2.526
March..........	30.072	60.3	— 1.1	30.3	0 41	62.1	W	4.418
April......................	29.987	73.9	25 4	47 2	3.69	70.8	S	4,276
May.......................	29.898	86.0	25.9	56.7	2 62	64 3	S & NW	4,205
June......................	29.959	88.0	44	66.7	6 16	71 8	NW	3.386
July.........	29 908	97.1	51.8	73 8	6.35	74.6	S	3,137
August........	29 944	86.4	46 1	66 4	8.02	75.2	SE	3,030
September...............	29.991	85.6	41.9	61.7	4.58	75 1	SW	3,009
October..	29.983	77.2	27.7	46 8	2 32	74.0	NW	3,022
November................	29.975	61.9	19.3	37.6	0.64	76.5	NW	3 358
December................	30.080	51.5	— 9.0	25.0	3.14	79.8	NW	3,169

SUMMARY FOR KEOKUK, IA., 1885.

MONTH—1885.	Mean corrected barometer....	TEMPERATURE.			Precipitation—inches........	Mean relative humidity	WIND.	
		Maximum.	Minimum..	Mean			Prevailing direction.	Total movement.....
January..................	30.189	50.9	—13.9	16.2	2.44	77.3	NW	6,501
February..................	30.055	46.3	—14.5	16 5	1.14	78.4	SW & W	5,594
March.....................	30.110	60 4	8.6	34 7	0.17	69 9	NW	7,359
April......................	29.975	76 9	28.0	49.7	3 33	76.1	SE & S	7,308
May......	29.907	83 7	32 2	60.6	2.59	69 0	NW	6,201
June.....	29 989	88.8	48.9	70 1	6 97	75.0	S	5,200
July	29 934	99.0	58.0	78 5	2.29	72.4	S	4,833
August	29.946	97.9	49.1	70 0	5.98	74 4	N	5,180
September...............	29.994	84.1	46 1	64.6	3.77	75 0	S	5,153
October......	29.976	77.5	30.0	49 4	3.59	74.4	N	5,654
November................	29.996	73 2	22.1	40 6	0.88	75.6	NW	6,195
December................	30.113	55.4	—5.2	28.7	1.96	79.8	NW	6,448

SUMMARY FOR INDIANAPOLIS, IND., 1885.

MONTH—1885.	Mean corrected barometer.....	TEMPERATURE.			Precipitation—inches........	Mean relative humidity.....	WIND.	
		Maximum..	Minimum..	Mean......			Prevailing direction.	Total movement.....
January..................	30.156	51.7	−11.3	22.5	3.31	85.3	W	3,994
February..................	30.026	59.0	−9.0	20.5	1.54	83.7	SW	3,424
March.....................	30.095	63.8	3.2	33.0	0.82	70.6	W&SW	4,990
April.....................	30.014	78.3	27.8	51.5	5.28	69.1	S	5,209
May.......................	29.909	87.7	35.3	60.5	3.66	66.2	W	4,101
June......................	30.013	90.1	41.1	68.8	5.74	71.0	S	3,665
July......................	29.964	94.5	47.5	76.3	1.43	70.9	SW	3,204
August....................	29.946	95.1	47.7	70.0	5.82	73.8	SW	3,704
September.................	30.025	83.8	38.4	63.9	3.50	72.9	S	3,144
October...................	29.973	77.8	31.4	50.4	3.25	73.6	S	3,804
November..................	30.001	69.8	23.7	41.9	2.71	73.7	S	4,446
December..................	30.106	56.3	−2.1	32.0	2.45	76.0	W	5,205

SUMMARY FOR ST. LOUIS, MO., 1885.

MONTH—1885.	Mean corrected barometer...	TEMPERATURE.			Precipitation—inches........	Mean relative humidity......	WIND.	
		Maximum.	Minimum..	Mean......			Prevailing direction.	Total movement.....
January..................	30.200	69.2	−9.7	26.0	3.26	73.8	NW	8,505
February..................	30.057	68.4	−5.5	27.0	0.87	72.5	W	6,338
March.....................	30.128	74	13.1	41.1	0.40	64.2	N	9,878
April.....................	29.999	79	32.1	56.4	4.84	66.9	SE	9,339
May.......................	29.918	91	40.5	64.9	2.80	66.6	SE	7,628
June......................	30.010	92	52.1	73.5	7.68	74.5	S	6,995
July......................	29.962	96.6	69	80.5	2.58	75.3	SW	5,119
August....................	29.953	95	53.5	74.6	2.96	75.7	NE	6,010
September.................	30.007	84	50.1	68.4	8.98	74.6	SE	6,730
October...................	29.984	79	37	55.8	7.51	71.1	SE	8,046
November..................	30.009	76.1	31.8	47.8	1.68	72.1	W	9,000
December..................	30.127	64.9	6.0	38.9	2.03	69.4	S	9,955

E.—STATE SANITARY SURVEY.

STATE SANITARY SURVEY.

A WISE and witty writer has said: "The emergency of the sanitarian comes, in fact, just at the time when the public sees no danger and no necessity for doing anything. * * * Cassandra, the unfortunate daughter of Priam, doomed to foresee the coming evils, but powerless to obtain belief in her predictions or to induce effort to avert the impending storm, is a type in more ways than one of the educated sanitarian of to-day."* And the general experience of such sanitarians will corroborate the proposition that "one of the chief reasons why sanitary work fails to receive continuous and adequate consideration and support from the public and from the legislator, is that, in its very essence, it is a work of prevention; and just in proportion to its own success and thoroughness does it destroy the obvious and palpable reasons for its continuance."†

But the experience of the last year or two shows that decided progress has been made in the sanitary education of the public, and that the lessons of the past have been so largely profited by as to afford substantial encouragement for the future. The country has been kept as fully informed as practicable concerning the danger of an extension of Asiatic cholera to our shores, and duly advised as to the best modes of averting the impending evil or of limiting its destructiveness. A deep and widespread interest in sanitary work has been aroused and fostered in many ways; and while the threat of a cholera epidemic furnished the text, its special applications have resulted in a convincing demonstration of the greater value of such work in reducing the prevalence and fatality of other and constant diseases and in promoting the general public health and welfare.

Here, in Illinois, the opportunity has been improved to the fullest extent, and it is no exaggeration to style the result a sanitary revolution which has permeated the entire area of the State. Cities, towns and villages, isolated hamlets, public institutions, private enterprises, corporations and individuals, have all heartily entered into the work of preparation by securing the best attainable sanitary condition of their respective environments. Their ready coöperation and intelligent action have greatly relieved the STATE BOARD of local responsibility, and made feasible a systematic and thorough sanitary reform such as could have been hardly anticipated at the outset.

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*Dr. JOHN S. BILLINGS, Surgeon U. S. A.: President's Address, American Public Health Association, 1880.

†Dr. JOHN H. RAUCH: Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America. National Conference of State Boards of Health, 1884.

There were many considerations to deter from an undertaking of any great magnitude, chief among which was the absence of sanitary organization. Except in a few of the larger cities such organizations were entirely wanting, and some of those actually in existence were little better than mere names. The emergency, however, was believed to be so grave as to demand a determined effort to accomplish as much as possible, relying upon the good sense and public spirit of the citizens to sustain the BOARD in its action, and prepared to improve every opportunity which should offer to develop the work in all practical directions.

As early as October, 1883, the BOARD took formal action upon the Secretary's preliminary work during the summer of that year, and approved the inspections he had then made of certain conditions threatening the public health of a large section of the State—"attracted more particularly thereto by the reports concerning the spread of Asiatic cholera abroad, and the possibility of its appearance in this country"—the result of some of which inspections he had already (August 4, 1883) communicated, by request, to the Governor. These inspections were continued from time to time, as opportunity offered, during the remainder of the year, and were resumed again in the early spring of 1884. Their importance and the significance of the conditions disclosed, were emphasized by the acknowledged existence of cholera at Toulon and Marseilles, in June of that year, and the situation was reviewed by the Secretary in his quarterly report, read at the July, 1884, meeting. In this—after considering the unsatisfactory condition of the National public health service, and the defective character of the coast quarantines—the conclusion was arrived at "that it is not judicious to place entire reliance on quarantine measures, no matter how administered, should the disease become epidemic in countries or points with which this country has close commercial relations. As Asiatic cholera, although it may invade places in good sanitary condition, finds its most congenial habitat where filth in any form abounds, the best attainable sanitary condition—clean streets and premises; the prompt and proper disposal of organic refuse, night soil, and all forms of sewage; well-ventilated habitations, with dry, clean cellars and basements; a pure and sufficient water supply; and good individual hygiene, including personal cleanliness, proper diet, and regular habits of life—these are the best safeguards against Asiatic cholera, as they are against most diseases. If it should, unfortunately, appear in a locality whose sanitary condition is good, as thus outlined, there is every reason to anticipate its prompt arrest by well-understood measures—thorough isolation of cases, disinfection of discharges, etc. Cholera is preeminently a disease to be fought by sanitation."

These views were given formal expression by the BOARD in the following resolution, which was adopted during the meeting:

Resolved, That, while epidemic cholera may be excluded from the country by thoroughly enforced quarantine regulations, yet the best attainable sanitary condition of every locality in the State should be secured, so that in the event of Asiatic cholera effecting an entrance, notwithstanding quarantine, the disease may be met and fought under the most favorable circumstances. The Secretary is therefore, hereby authorized to take such action as, in his judgment, will most promptly secure a thorough sanitary organization of the State, and the adoption and enforcement of the measures necessary to improve its general sanitary condition.

Drafts of circular letters, with this general end in view, and addressed to the mayors of cities and presidents of boards of village trustees, and to county commissioners and town supervisors, were also presented and approved, and immediately upon the adjournment of the meeting these were forwarded to the authorities of some 800 cities, towns and villages, and to the commissioners of counties and boards of supervisors. These were supplemented by numerous other letters, circulars, memoranda, etc., many of which were given to the public and those interested through the columns of the press, which lent a cordial and efficient support to the undertaking.

So much interest was manifested in this preliminary work, and the results attained within the next four months were so satisfactory and important, that, at the November meeting following, the Secretary recommended a thorough and systematic Sanitary Survey of the State, to be inaugurated by the 1st of January, 1885—explaining that it was proposed to begin work in the southern portion of the State, and to work northward as rapidly as the weather would permit, so that by May 1st, 1885, the sanitary condition of every dwelling in all of its parts, of all premises, out-houses, wells, cisterns, and other belongings, should be made known, the remedy of defects be pushed, and the authority of the STATE BOARD be exerted whenever necessary to supplement the efforts of the local authorities of the State to resist the threatened invasion of Asiatic cholera.

This recommendation was adopted, and the BOARD authorized the Secretary to prepare the necessary blanks and instructions, and to distribute the same to the proper authorities of counties, townships and municipalities. In accordance with this authorization a blank form for a house-to-house inspection was prepared during the winter, and, toward the approach of mild weather its distribution was begun in the southern portion of the State. This blank was accompanied by the following circular letter:

ILLINOIS STATE BOARD OF HEALTH.

STATE SANITARY SURVEY.—No. IV.[*]

OFFICE OF THE SECRETARY, Springfield, March, 1885.

DEAR SIR:—Whenever Asiatic cholera has prevailed as an epidemic in Europe—embracing, now, a period of more than half a century—it has, eventually, reached this country and caused great loss of life, thousands of cases of sickness, and severe injury to trade, commerce and all forms of productive industry. It is true that until quite recently there was little or no sanitary organization, and little effort made to utilize the existing sanitary knowledge for the exclusion of the disease. Such organization and knowledge might now, possibly, be able to keep the pestilence out of the country. But it is not probable that they will do so; and the chance is greatly reduced by unrestricted immigration, which is likely to be stimulated during the coming season by the low rates of passage.

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[*] Circulars Nos. I-III of this series have already been published in the Seventh Annual Report—pp. 59-62.

There is, therefore, all the more reason why States, municipalities, communities and individuals should hasten to put themselves and their belongings into the best attainable sanitary condition, so as to limit the spread of the disease whenever it may be introduced. There is this additional reason for such effort, to-wit: Whatever of sanitary work is calculated to check the spread of Asiatic cholera, will have an equally beneficial effect upon the limitation of a large class of other diseases, which are more or less preventable. So that, even though cholera should not come, such work will reduce the frequency and fatality of cholera morbus, cholera infantum, diarrhea, dysentery, typhoid fever, and many other diseases.

In order to facilitate this work of preparation, and to make it thorough and systematic, the State Board of Health has prepared a blank form for a *House-to-House Inspection*, and herewith furnishes a package of such forms, with the necessary instructions.

This form has been so prepared, and the instructions are so plain and specific, that it is believed any person of fair average intelligence can make the inspections and fill up the Returns. The instructions are supplemented by a Return filled up, with the supposed entries printed in *italic;* and by a Plan of the Premises, showing the mode of making the diagram. These illustrations cover most of the ordinary sanitary defects which will be met with, and indicate the method of briefly and clearly describing them. The Plan of Premises is an important feature, and its use will save much written description, especially in pointing out the location of nuisances on adjoining premises—as, for example, those arising from the proximity of slaughter-houses, rendering establishments, distillery stables, etc., etc. A careful study of these illustrations should be made by the inspector before beginning operations.

The inspection should be conducted under the supervision of the health authorities, wherever such exist; and in small towns and villages where there is no health organization, some physician, who has the necessary sanitary knowledge, should be appointed as health officer for this purpose.

Very many of the sanitary defects and evils which will be disclosed by these inspections can and should be corrected by the individual householder or occupant—so that little or no expense need be incurred by the authorities, beyond the cost of making the inspections. The inspector should be authorized to request the prompt correction of defects and the abatement of nuisances as soon as they are discovered. In the majority of cases a clear explanation of what is required will secure the necessary action by the owner or occupant. But where such explanation and request are ignored, and a nuisance injurious to the public health is continued, notice should be served upon the offender that he will be prosecuted according to the ordinances or laws concerning nuisances; and the inspector should report, from day to day, on these matters.

A suitable form for tabulating and condensing the Returns is being prepared, and will be furnished in due season. One copy of this should be preserved permanently, as the basis for a Municipal Sanitary Schedule, which, with little labor and expense from year to year, will be found of great value in efforts to preserve the public health. A duplicate copy of this Condensed Return is to be forwarded to the State Board of Health.

After the Returns are all in, and the information they contain has been properly digested—the sanitary work by individual owners and occupants having been, meanwhile, steadily pushed from day to day—it will remain for the authorities to determine what further action, if any, is necessary. The compilation of the "Public-Health Laws of Illinois and Sanitary Memoranda"—a copy of which has already been furnished you—contains a summary of all existing legislation concerning the public health, and will serve as a guide for any action that may be required. The republication in the local papers of the chapter on "General Sanitation" (pp. 48–51), would be useful during the inspection.

It is important that this work be begun as soon as the weather will permit; *and it is especially desirable that certain details be attended to at the earliest practicable moment.* For example: The emptying, disinfecting, filling with clean earth, or other necessary treatment of privy vaults, should be completed before warm weather comes to interfere with such work, or before the appearance of a case of cholera makes it dangerous to attempt it. To this end, wherever the conditions make such action necessary, a proclamation or health notice should be issued, directing the immediate prosecution of such work. See Section 2, Article VI, of the *Model Sanitary Ordinance*, page 13 of the "Public-Health Laws and Sanitary Memoranda." Where no health organization is in existence, the present emergency furnishes a favorable opportunity for securing the adoption of this ordinance.

It is desired that the receipt of this Circular and accompanying blanks be acknowledged, and that the Board be advised from time to time of the progress made in improving the sanitary status.

Additional copies of the blanks, instructions, and other publications of the Board, may be obtained by addressing the Secretary; and correspondence is especially invited on points not made sufficiently clear, or which present any complications or features of importance.

By the order of the Board:

John H. Rauch, *Secretary.*

To the Mayor, or President Board of Trustees.

These blanks were printed on sheets, 8½x10 inches, and mounted in blocks or pads of 25s, 50s and 100s, a sufficient quantity being provided for the inspection of 330,000 houses and premises, a number which it was calculated would embrace all that portion of the population of the State living in cities, towns and villages.

Upon the inside cover of each pad or block of blanks is printed the following:

Knowledge of Defects and Evils is the First Step toward their Remedy.

1885. **STATE SANITARY SURVEY.** **1885.**

INSTRUCTIONS

For filling out the Return of a Sanitary Inspection of House and Premises on the Form prepared by the Illinois State Board of Health.

Number the Inspection Returns consecutively in the space No.....at head of each blank.

In Entry No. 1 describes the **location** by street and number, or otherwise, **so that it cannot be mistaken.**

No. 2—Give the **full** name of the owner or owners, or agent.

No. 3—Give the **aggregate** area of all out-houses, sheds, privies, stables, etc., and indicate their positions on the **Plan of the Premises.** (see back of the blank.)

No. 4—If the site of house is *above* level of adjoining land, strike out the words "same as" and "below"; if the *same*, strike out "above" and "below"; if *below*, strike out the other words. Write in the proper word before the entry "drained before building"—*not, tile, ditch*, etc., as the case may be. State character of **soil**—humus (or prairie soil), gravel, sand, clay, loam, etc.; wet, damp or dry. If **made ground** state character of filling. Also state whether the site was **originally** springy, swampy, old water-course, dry ravine, pond, etc.

No. 6—Describe **ventilation** and **lighting** of Cellar or Basement. State whether occupied for **living purposes—dry** or **damp**—for what used—note **condition** and **kind** of articles stored, and kind and amount of **refuse, filth,** etc. Where there is no basement or cellar note **height of first floor from the ground,** and describe the means provided for **sub-ventilation** of the building.

No. 7—Note condition of **sinks**—odor—leakage—traps—waste-pipes. Of **drains**—covered—open—foul—clogged—unventilated. Of **cesspools**—construction—covered—leaky—full—overflowing.

No. 8—As to **vault,** note construction—leaky—offensive—too full. As to **water-closet** state whether pan-closet or other—traps—ventilation of soil-pipe—ventilation of room.

No. 9—State whether **yard** is paved—drained—clean—amount and kind of garbage, filth, etc.

No. 11—If more than one family of occupants, number each. Example: 1 *Mrs. Mary Smithers*, 2 *John Brown*, 3 *John Smith*. (See Illustration.)

No. 12—Note **over-crowding**—occupancy of inner, unventilated rooms, cellars, etc.

Nos. 14, 15 and 16—Inquire especially concerning the following diseases: **Cholera Morbus, Cholera Infantum, Diarrhea, Dysentery, Typhoid Fever, Diphtheria, Cerebro-spinal Fever. Scarlet Fever, Small-Pox, Erysipelas, Consumption, Pneumonia.** In No. 14 state how many cases and what diseases are found at date of inspection—**adults, children** and **sexes** specified. In No. 15 the same for the past twelve months. In No. 16 specify the **causes** of any deaths during the past twelve months—giving ages and sexes.

No. 17—State whether water used for **drinking and cooking** is cistern, well or hydrant—hard or soft—its general character—whether **sickness** has ever been attributed to it—what probable source of pollution, if any, exists. **This entry is of especial importance at the present time.**

No. 18—Mention any conditions which are **Nuisances** either public or private—on the premises or adjoining, in street, alley, gutter, sewer, etc.

Under **Recommendations** indicate briefly the important sanitary **defects** and their **remedy,** and strike out the numbers of entries which do not point out any defects.

Cleanliness is the Best Protection against Cholera.

Face of Inspection Blank]

STATE SANITARY SURVEY, 1885. ILLINOIS STATE BOARD OF HEALTH.

Refer frequently to Instructions. *INSPECTION RETURN No.*—— Refer frequently to Illustrations.

SANITARY INSPECTION OF HOUSE AND PREMISES.

1. Ward.... { Street Avenue Boulevard } ....No. ....

2. Owner:..

3. Size of lot......ft. by......ft.; area of lot..........sq. ft.; covered by house........sq. ft.; by outhouses........sq. ft.

4. Site of house: Level { above same as below } adjoining land.......drained before building...........

....

5. Age of house......years; material..............................; No. of stories.........

6. { Basement or cellar: } ....

....

7. { Cesspool— Sink—Drain: } ....

8. { Privy vault; water closet } ....

....

9. Yard..

10. Animals:..

11. { No. of families: } .... { Names of heads of families: } ....

12. { No. of occupants; } { Adults......, White.......... Children...., Colored.. }

13. Vaccinal status: Adults vaccinated...........; revaccinated...........; not vaccinated ....; Children vaccinated.............; not vaccinated.............. Had small-pox: Adults...... ....; children.................

14. Sickness now:..

15. { Sickness during past twelve mo's: } ....

16. { Deaths during past twelve mo's: } ....

17. Water supply:..

....

....

18. Nuisances:..

....

....

Recommendations: Indicated by entries in Nos. 4, 6, 7. 8, 9, 10, 12, 13, 14, 15, 16, 17, 18...

....

....

{ Place and Date: } ....1885. ....Inspector.

Refer frequently to Instructions.

ILLUSTRATION.

Refer frequently to Illustrations.

INSPECTION RETURN NO. 1.

SANITARY INSPECTION OF HOUSE AND PREMISES.

1. Ward 10. Avenue } *Washington, E. side 4th s of Court square.* No. 123.

2. Owner: *Richard Washington Roe.*

3. Size of lot: 40 ft. by 150 ft.; area of lot 6,000 sq. ft.; covered by house 1,600 sq ft.; by out-houses 450 sq. ft.

4. Site of house: Level { same as } adjoining land. *Not* drained before building. *Soil* 2 *ft. humus on clay Damp.*

. . . .

5. Age of house: 10 years; material: *Frame on brick basement.* No. of stories: 2½.

6. Basement or cellar: } *Used to store vegetables, coal, wood. Ventilation by two windows, front and rear. Damp. No drainage. About 2 bushels decaying vegetables.*

7. Cesspool—Sink—Drain: } *Kitchen sink not trapped—connects by wooden box drain with covered brick cesspool, which leaches. Cesspool overflows by open drain to unpaved alley.*

8. Privy vault: } *Wooden box—no bottom—nearly full—very offensive. Too near well.*

. . . .

9. Yard: *Plank walks to out-buildings. Drained only by open drain from cesspool. Garbage and manure-heap near stable. Pig-stye filthy.*

. . . .

10. Animals: 1 *horse,* 1 *cow,* 3 *pigs, some poultry.*

11. No. of families: } 2. Names of heads of families: } 1 *Mrs. Mary Smithers;* 2 *John Brown Jones.*

12. No. of occupants: { Adults, 4 . White, 11 . Children 7 , Colored...... *No.* 1, *widow and four children crowded in two rooms.*

13. Vaccinal status: Adults vaccinated 2 ; revaccinated 1 ; not vaccinated 1 ; children vaccinated 4 ; not vaccinated 3 . Had small-pox: adults 1 ; children 2.

14. Sickness now: 1 *adult—pneumonia.*

15. Sickness during past twelve mo's: } 1 *child, summer complaint;* 1 *adult, typhoid fever.*

16. Deaths during past twelve mo's: } 1 *child, summer complaint;* 1 *adult, typhoid fever.*

17. Water supply: *Cistern for laundry use. Hard well for cooking and drinking. Too near privy and cesspool (see Plan). Well-water suspected.*

. . . .

18. Nuisances: *Gutter in front of house, alley in rear from drainage and from filth of livery stable.*

. . . .

. . . .

Recommendations: Indicated by entries in Nos. 4, 6, 7, 8, 9, —. 12, 13, 14, 15, 16, 17, 18. *Empty privy vault and fill with clean earth. Construct new, tight vault at least* 20 *ft. farther from well. Clean out cesspool and cement. New curb and cover for cistern.*

. . . .

Place and date: } *Smithville, March* 14, 1885. *John Simons,* Inspector.

Explanation of the Illustration.

The illustration on the other side of this sheet refers to a house in the *Tenth* Ward of the town of *Smithville* (see "Date and Place" at foot of Return); situated on the *east side of Washington avenue—fourth house south of Court square—No. 123.*—Entry No. 1.

The house is owned by *Richard Washington Roe.*—Entry No. 2.

It is on a lot *40 feet front by 150 feet deep*—the area of the lot being *6000 square feet.* The diagram, Plan of the Premises, (see next page) shows the dimensions of the lot, and of the house and outbuildings, with their relative positions.—Entry No. 3.

The surface of the lot has the *same level as the surrounding land*—therefore there can be little or no natural surface drainage. The site of the house was *not drained before building;* and the soil being composed of *two feet of humus* (or prairie soil) *on a bed of clay,* it follows that the site is naturally damp or wet—the only mode of relief from rains, or melting snow, and the slops, wash-water, etc., from the house, being by evaporation. This is a sanitary evil very frequently found, and which should have been provided against before beginning to build, by proper under-drainage. The best that can now be done will be to make surface drains to the gutter in front of the house. Any natural drainage—as by a ravine or water-course—with which the alley can be connected, should be utilized by a surface-drain through the alley, and which should be kept open and free from filth, garbage, etc.—Entry No. 4.

The house is a *two-and-a-half story frame, on a brick basement,* and is *ten years old.* The necessity for a thorough spring overhauling, whitewashing or kalsomining, scrubbing and general cleaning up, increases with the age of the house.—Entry No. 5.

The brick basement or cellar is used for storage purposes; and from the memoranda of the inspector, it is obvious that it should be thoroughly cleaned—the decaying vegetables removed, all refuse and dirt gathered up, and the walls and ceiling whitewashed. If there are any moist places they should be covered with fresh-burned lime, and the windows, front and rear, should be kept open as much as possible to secure fresh air and sunshine.—Entry No. 6.

The kitchen sink connects by an *untrapped waste-pipe,* through a *wooden box drain,* with a *covered cesspool.* There will, consequently, be a flow of foul air—greater in winter, when it is more dangerous, than in summer—from the cesspool into the kitchen, and thence into other parts of the house. The waste-pipe should have an ∽ trap, and the box drain should be ventilated by an opening between the house and cesspool. This cesspool *leaches* or leaks, and is too full. It should be emptied, and then made tight by cement—or, better still, filled up with clean earth, and a new one made farther away from the well, provided with a ventilating cover.—Entry No. 7.

The privy vault, though better than a mere hole in the ground, needs radical treatment. Aside from being *nearly full* and *very offensive,* it is too *near the well.* It should be emptied, disinfected and filled up with clean earth; and a new vault dug, not more than 6 feet deep, and at least 20 feet farther from the well. With a water-tight bottom and sides, and the intervening 30 feet of clay, the danger of polluting the well will be materially obviated; but in a sandy soil, or gravel, or loam, the privy, even with a water-tight vault, should be at least fifty feet from the well. It would be better, and almost as cheap, to raise the shed high enough to use a water-tight box above ground, and so arranged as to be readily emptied at least twice a year, or oftener if the contents accumulate to more than one-third its capacity. Foul smell may be prevented by the use of dry earth, copperas or other disinfectant. If underground vaults are used they cannot be too far from the well.—Entry No. 8.

The well, located for convenience about 15 feet from the kitchen door, has a leaking cesspool within 12 feet in one direction, and a foul privy vault about as near in another. Its water is *suspected.* This is one of the most serious evils about the premises. Should cholera appear, the use of this well must be positively forbidden. Meanwhile, another source of supply should be provided.—Entry No. 17.

Thus far the inspection has dealt entirely with defects and evils which the owner or occupants should be compelled to remedy forthwith. But the *Nuisances* caused by the condition of the *gutter in front of the house and of the alley in the rear*, are matters which the town must correct. The gutter along this street should be cleaned out, and a suitable depth and slope be secured so as to afford proper drainage. The livery-stable owner should be notified to abate the nuisance caused by him in the alley.—Entry No. 18.

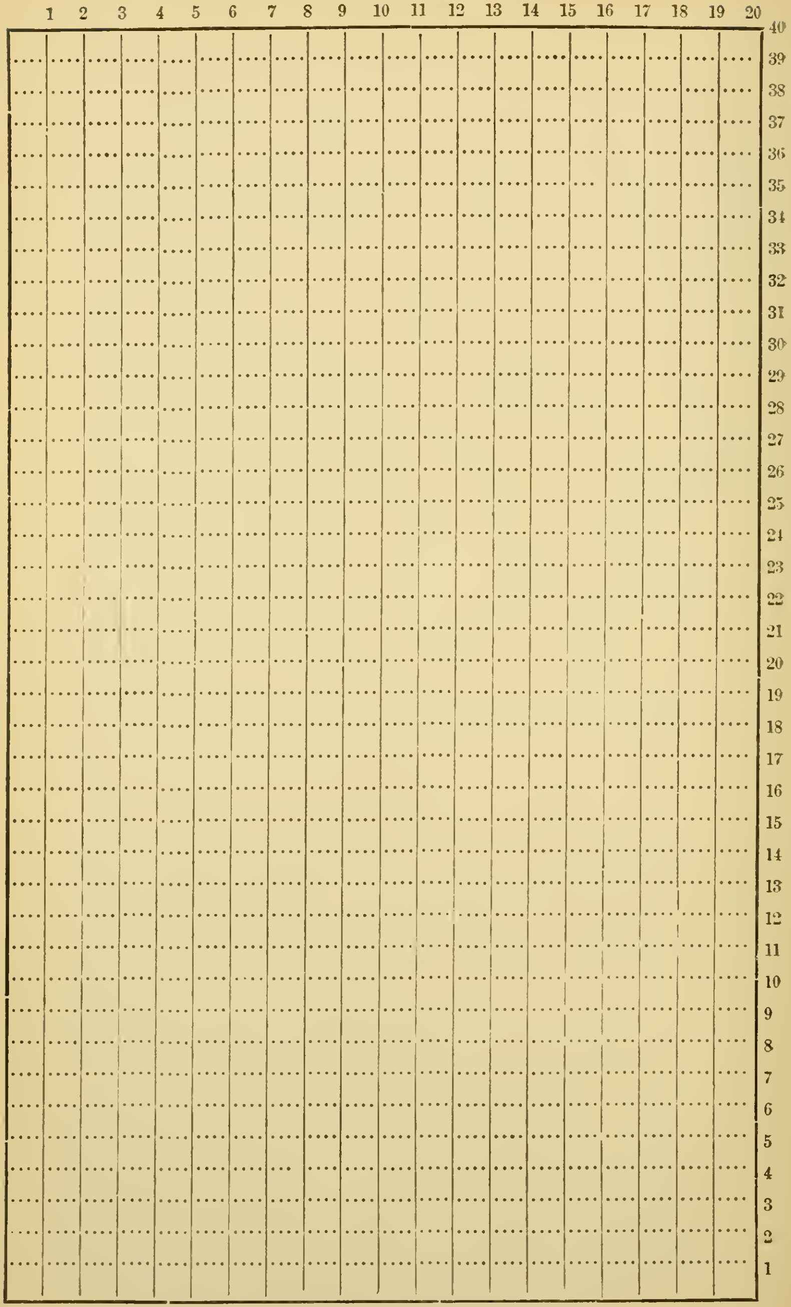
The inspector should so frame his entries as that they will indicate the work necessary to be done, without repetition in the Recommendations. It will then only be necessary for him to strike out the numbers of entries which do not require attention. In this illustration only one such entry (No. 10) is stricken out; but this illustration is intended to be typical, covering as many defects and evils as possible—and it is to be hoped that few premises will be found in which are combined so many and such serious insanitary conditions.

The inspector, after pointing out what requires to be done by the owner and occupant, should make a re-inspection within a reasonable time to see whether the defects and evils have been remedied. If found necessary, upon this re-inspection, formal notice should be served upon those who have failed to comply with the instructions, and compliance should be enforced by such measures as may be needed.

In all this work very much will depend upon the tact, discretion and good judgment of the inspector.

[*Diagram blank printed on back of each Inspection Return.*]

PLAN OF PREMISES.*



Front: N. E. S. W.

* For explanation see next page.

Explanation of "Plan of Premises."

These spaces represent areas of 5 feet square, or a total area of 20,000 square feet—the dimensions of the block being 100 feet by 200 feet.

Taking the bottom black line for the front of the lot, indicate by a pencil line the size and shape of the lot—leaving a margin on each side, if there be room.

Next, outline the size and location of the house and other buildings.

Then indicate by letters the location of the well (by *W*), cistern (by *C*), privy (by *P*), stable (by *St*), pigstye (by *Ps*), cesspool (by *Cp*).

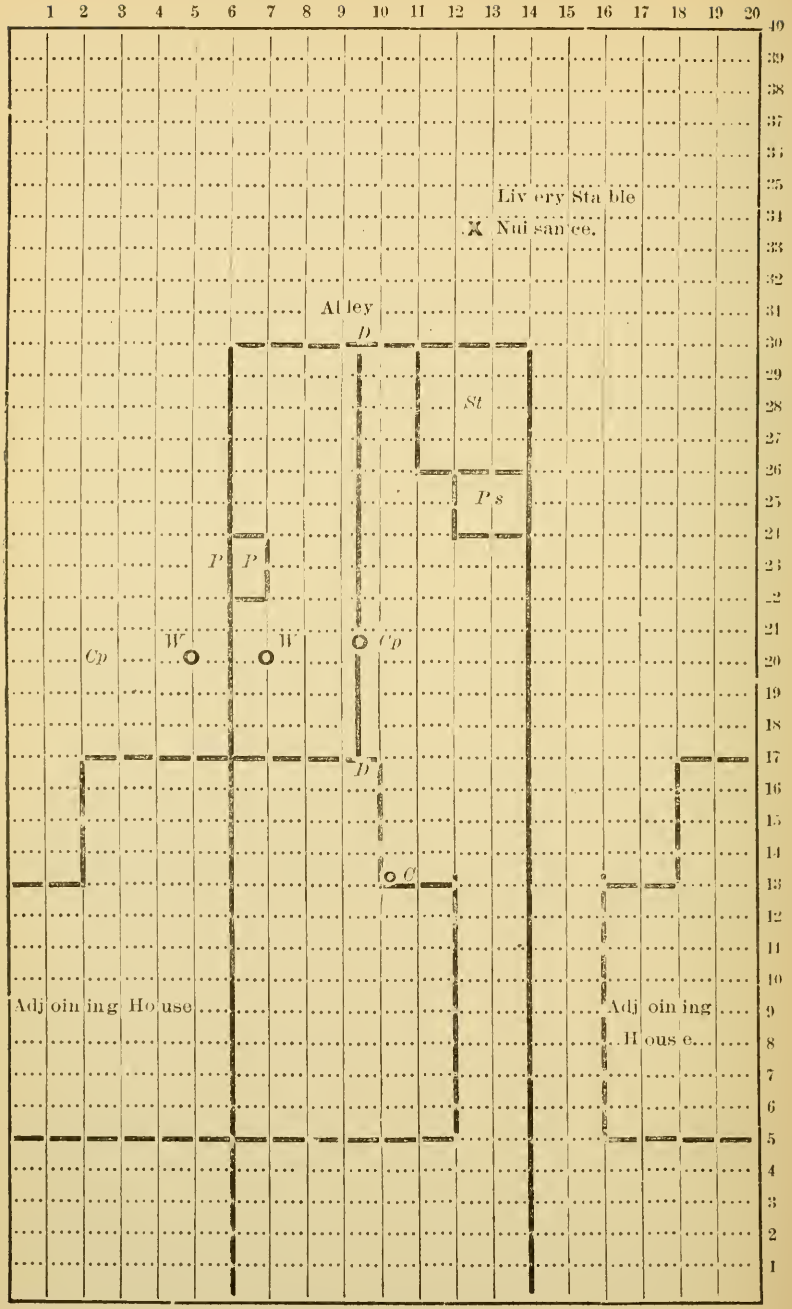
Also, the course of drain or sewer by a line, with the letter *D* at the beginning and end of a Drain, or the letter *S* at beginning and end of a Sewer.

Strike out the unnecessary points of the compass. Example: If the house fronts *North*, strike out E. S. W.

On either side of the outline of the lot indicate location of adjoining buildings, wells, privies, etc., so far as there may be room.

If necessary, the proportions of this Diagram may be increased by estimating the area of each space at 10 feet square. If this be done, the fact should be noted.

ILLUSTRATION PLAN OF PREMISES.*



Front: ▬. E. ▬. ▬.

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* For explanation see next page.

EXPLANATION OF "ILLUSTRATION—PLAN OF PREMISES."

This illustration represents a lot 40 feet front by 150 feet deep= 6000 square feet area.

The house, fronting *East*, is 20 feet back from front line of lot; is 30 feet front, and the main body measures 30 feet x 40 feet=1200 square feet, with a rear projection measuring 20 feet x 20 feet=400 square feet. Total area covered by house, 1600 square feet.

The outbuildings measure, respectively, *P* 5 x 10=50 square feet; *St.* 15 x 20=300 square feet; *Ps* 10 x 10=100 square feet; aggregate area of outbuildings, 450 square feet.

Aggregate area of lot covered by buildings, 2050 square feet.

The covered wooden drain mentioned on *Illustration*, Inspection Return No. 1, entry No. 7, runs from the kitchen to cesspool, 12 feet.

The well is 12 feet from privy vault, and about the same from cesspool.

On either side of the lot are indicated the adjoining buildings, well, etc., so far as they have any sanitary relation to these premises; and in the rear, across the alley, is indicated the nuisance caused by the "Livery stable"—see entry No. 18 on Inspection Return No. 1 (*Illustration*).

During the year nearly 300,000 of these blanks were distributed—the first distribution of 270,000 being completed before the end of March—and 6,900 circular and explanatory letters were sent to county clerks, county commissioners, township supervisors, municipal and health authorities, editors, railway managers, county superintendents of schools and others; besides some 2,500 individual letters in response to specific inquiries—1,174 such being written and sent during the July quarter alone.

Copies of this blank and of the instructions were also sent with an explanatory circular-letter* to the editors of 775 different publications in the State, with a request for coöperation, which was very generally and efficiently accorded.

Meanwhile, the House-to-House Inspection having been fairly inaugurated, a similar work was undertaken with respect to the public institutions—almshouses, jails court houses, etc.—and to the public school buildings. With this end the following circulars were addressed—No. VI to county clerks, and No. VII to the County Superintendents of Schools.

Illinois State Board of Health.

STATE SANITARY SURVEY.—No. VI.

Office of the Secretary, Springfield, April 4th, 1885.

Dear Sir:—In connection with the Sanitary Survey of the State and the House-to-House Inspection, now being prosecuted under direction of the State Board of Health with reference to the probable appearance of Asiatic cholera in this country, it is desired by the Board that the work of getting the public institutions into good sanitary condition be completed with as little delay as possible. Much work of this character was done during the past summer and fall, in response to the circular-letter of the Board issued in July last. But in addition to what remained to be done when cold weather suspended operations, there must since have accrued, in many cases, accumulations of filth and refuse which should now be promptly removed; defects in plumbing, drainage and sewerage, disclosed during the winter, should be repaired; and the effects of the occupancy of dormitories, workshops, wards, cells and other apartments should be remedied by a thorough spring cleansing.

To this end it is respectfully requested that you communicate with your County Board, and advise them of this action of the State Board of Health. The officers in charge of almshouses, jails and all other public buildings under control of the County Board, should be notified to commence work at once. Very much that requires to be done—scrubbing, whitewashing, removal of garbage and refuse, the emptying and disinfection of vaults and cesspools, the opening up and cleaning out of drains, sewers and ditches—can be performed by the employès and inmates of the institutions.

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*State Sanitary Survey.—No. V.

Especial attention should be given to the location and condition of privies and water closets at these places, as also at court houses and elsewhere. Vaults should be emptied before warm weather makes such work dangerous, and then be thoroughly disinfected with sulphate of iron (copperas). Where these vaults are within fifty feet of any source of water-supply—well, spring, pond, lake, or running stream—their further use should be abandoned, and after being emptied, they should be disinfected and filled up with clean, dry earth—one of the best disinfectants. The new vault should not be less than fifty feet from the nearest water-supply; should be watertight; ventilated by a four-inch shaft, opening above the roof; the contents should be kept inoffensive by the use of some cheap disinfectant; and the building and its surroundings should be kept in the cleanest attainable condition. Where practicable the substitution of the earth-closet system for the subterranean vault-storage is recommended. In either case the frequent removal of the contents, and their safe disposal, by use as fertilizers, are necessary sanitary measures.

The source of the water-supply, and its storage and distribution, should be carefully inquired into, and all possible causes of pollution should be removed. A pure water-supply is of the first importance to health under all circumstances; but among numbers of persons living under the conditions which obtain in county institutions, its importance is increased. Epidemics of diarrhea and dysentery may be caused by impure water; while typhoid fever and Asiatic cholera are spread more commonly through the water-supply than in any other way.

These remarks and suggestions will indicate the character of the work which the Board considers it desirable should be accomplished before warm weather sets in, not alone through fear of cholera, but in the interest of public health, and, consequently, of true economy.

Additional copies of this circular-letter—to be sent to the different members of your County Board and to the officers in charge of the county institutions—will be furnished you on application, specifying the number required.

As soon as practicable a report of the condition of these institutions, and of the work done or action taken in improving their sanitary status, should be made to this office. Any assistance in the way of information, instruction or advice will be promptly rendered.

By order of the Board:

John H. Rauch, *Secretary*.

To the Hon. ....,

County Clerk of....................*County, Ill.*

Illinois State Board of Health.

STATE SANITARY SURVEY.—No. VII.

Office of the Secretary, Springfield, April, 1885.

Dear Sir:—In anticipation of the possible appearance of Asiatic cholera in the near future, as well as in the general interest of the health of public-school children, the State Board of Health requests that County Superintendents of Schools throughout the State use their influence and authority in securing a good sanitary condition of the public-school buildings and premises over which they have supervision, before the season becomes too far advanced.

To this end it is desirable that Boards of School Directors be specifically advised of the importance of an immediate inspection of school buildings and premises with reference to—

1. *The purity of the water-supply.*

If the water-supply be from wells, these should be so located and protected as to be free from contamination by seepage from privy-vaults, cesspools or other sources of ground pollution, as well as from surface-drainage. If from springs or running streams, these should equally be protected against contamination. If from cisterns, the roofs and gutters connected therewith should be kept clean and free from any accumulation of leaves or other debris or refuse; the curb and cover (if the cistern be below ground) should be sound and high enough to prevent any surface-drainage; if there be any suspicion of leakage, it should be at once repaired; and, unless the water be free from color and odor, it should be pumped out and the cistern thoroughly cleansed. Where there is any doubt as to the wholesomeness of the water now supplied, its use should be abandoned and other provision should be made at once.

2. *The condition of water-closets and privies.*

Water-closets should not be located in basements or interior rooms; should be well-ventilated, properly trapped and thoroughly flushed and the soil-pipe should be ventilated by a suitably-protected ventilating pipe opening above the roof. Privy-vaults should be emptied and disinfected before warm weather makes such work dangerous. If the present location is objectionable, new tight vaults, preferably above ground, should be constructed at a safe distance from any source of water-supply. The old vaults should be emptied and then filled with clean dry earth.

3. *The drainage and policing of grounds.*

Grounds around school buildings should be thoroughly drained; gutters, sewers and other drains should be cleaned out, disinfected if necessary, and kept free from obstructions; stagnant water, either on the premises or in the vicinity, should be drained off, and the low, moist places filled in with clean dry earth, or sprinkled with fresh-burned lime. All accumulations of refuse, ashes, etc., should be removed, and the grounds be kept scrupulously clean.

4. *The condition of buildings.*

So far as practicable a thorough spring cleaning should be given to all school-rooms, and especially to the basements where there are such. Damp basements or underground stories, after being properly cleaned, should be liberally sprinkled with fresh-burned lime, changed from time to time. All rooms should be freely exposed to the air when not occupied. Buildings which are connected with sewers and a public water-service, should be carefully inspected as to the plumbing and drainage, and all defects should be promptly remedied.

Where nuisances exist on adjoining premises or in the vicinity of a school, the attention of the proper authorities should be called thereto by the School Directors and their immediate suppression should be requested.

The foregoing suggestions will indicate the most prominent sanitary defects which require immediate attention; and if they will be of any service to County Superintendents in securing the necessary action by School Directors, additional copies of this circular will be supplied for such purpose. Requests for such additional copies, specifying the number desired, should be made to the Secretary at Springfield.

As soon as practicable, and from time to time as necessity arises, reports of the condition of the schools should be made to the BOARD, which is prepared to furnish information or advice, or to render any assistance in its power to secure the end indicated.

By order of the Board:

JOHN H. RAUCH, *Secretary.*

To ....,
County Superintendent of Schools,
.... *County, Ill.*

RESULTS OF THE HOUSE-TO-HOUSE INSPECTION:

No mere array of figures would convey an adequate idea of the actual amount of work involved and accomplished in the systematic sanitary inspection of houses and premises. As a result of the widespread publicity, and through the numerous circulars, volunteer articles in the columns of the press and the personal efforts of physicians, health and municipal authorities, ministers and public-spirited citizens generally, an interest was developed in the undertaking which led to an immense amount of cleaning up, abatement of nuisances and remedy of defective conditions before the inspectors began operations. None of this, of course, shows in their returns and reports. Its extent can only be inferred from the correspondence received in the office of the BOARD during the progress of the inspections.

Some conception of the magnitude of the work may, however, be obtained from the following data. Including Chicago,[*] over 300,000 inspections were made between the middle of March and the last of

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[*] Details of the Chicago Inspection are not included in those concerning the State at large, but are given in a separate section following "Inspections in the State at Large."

December, 1885. A reference to the Sanitary Inspection blank will show that each inspection involved the examination of 18 different points or features, and the completed inspection returns show that in some instances upwards of 75 different items were noted in the inspection of a single house and premises. Averaged at one-half of this maximum—which is certainly not an over-estimate—it will be seen that the House-to-House Inspection of 1885 covered over 11,300,000 different items relating to the sanitary status of houses and premises, and the conditions affecting the health of the individual and of the public.

Even this enormous aggregate is below the actual facts, since it does not take into account the re-inspections made to ascertain whether the reported defects had been remedied and the nuisances abated. In thousands of instances these re-inspections were repeated until the necessary work was finally accomplished.

INSPECTIONS IN THE STATE AT LARGE.

In round numbers an aggregate of 224,360 inspections were made up to the close of 1885, in the State at large, and exclusive of Chicago. These embrace a total of 395 cities, towns and villages in 96 of the 102 counties. At the close of the year only six minor counties had failed to report, namely: Clark, Hardin, Jasper, Saline, Stark and Wabash. These are sparsely settled, containing only a little more than two and a half per cent. of the total population of the State, and no large towns.

More or less detailed reports have been received from the following-named 328 cities, towns and villages:

PLACES.	COUNTIES.
Addison	DuPage
Adeline	Ogle
Aledo	Mercer
Altamont	Effingham
Alton	Madison
Anna	Union
Arcola	Douglas
Argo	Carroll
Ashland	Cass
Assumption	Christian
Astoria	Fulton
Athens	Menard
Auburn	Sangamon
Augusta	Hancock
Baileyville	Ogle
Baldwin	Randolph
Batavia	Kane
Beardstown	Cass
Belle Park	Kankakee
Belleville	St. Clair
Belvidere	Boone
Biggsville	Henderson
Blackberry	Kane
Blackberry Station	Kane
Blackstone	Livingston
Blandinsville	McDonough
Bloomington	McLean
Bonus	Boone
Braidwood	Will
Broadwell	Logan
Brookside	Madison
Buncombe	Johnson
Bunker Hill	Macoupin
Bushnell	McDonough
Cairo	Alexander
Cambridge	Henry
Canton	Fulton
Carbondale	Jackson
Carlinville	Macoupin
Carlyle	Clinton
Carman	Henderson
Carmi	White
Carrollton	Greene
Carthage	Hancock
Cayuga	Livingston
Centralia	Marion
Central City	Marion
Champaign	Champaign
Charleston	Coles
Chauncey	Lawrence
Chenoa	McLean
Chester	Randolph
Chesterfield	Macoupin
Chillicothe	Peoria
Chrisman	Edgar
Clay City	Clay
Clayton	Adams
Clinton	DeWitt
Coal Valley	Rock Island
Coleta	Whiteside
Collinsville	Madison
Cornland	Logan
Cowden	Shelby
Creal Springs	Williamson
Cropsey	McLean
Cuba	Fulton
Dallas City	Hancock
Danforth	Iroquois

PLACES.	COUNTIES.
Danville	Vermilion
Decatur	Macon
DeKalb	DeKalb
Delavan	Tazewell
Denver	Hancock
Derinda Centre	JoDaviess
Deselm	Kankakee
Dewey	Champaign
Dorchester	Macoupin
Dundee	Kane
Duquoin	Perry
Eagle Point	Ogle
Earlville	LaSalle
Eddyville	Pope
Edwardsville	Madison
Effingham	Effingham
Elkhorn	Washington
Elgin	Kane
Evanston	Cook
Excelsior Mills	JoDaviess
Fairbury	Livingston
Fairfield	Wayne
Fancy	Woodford
Farina	Fayette
Farmingdale	Sangamon
Farmington	Fulton
Fisher	Champaign
Florid	Putnam
Foosland	Champaign
Forest	Livingston
Forreston	Ogle
Freeport	Stephenson
Fullerton	DeWitt
Galena	JoDaviess
Galesburg	Knox
Garden Prairie	Boone
Geneseo	Henry
Geneva	Kane
Gibson City	Ford
Gillespie	Macoupin
Gilman	Iroquois
Golconda	Pope
Golden	Adams
Good Hope	McDonough
Goreville	Johnson
Grafton	Jersey
Grant Park	Kankakee
Grayville	White
Green Valley	Tazewell
Greenville	Bond
Gurnee	Lake
Half Day	Lake
Hamilton	Hancock
Harvard	McHenry
Havana	Mason
Hawley	Henry
Hebron	McHenry
Henry	Marshall
Highland	Madison
Highland Park	Lake
Hillsborough	Montgomery
Hills Grove	McDonough
Hord	Clay
Howardsville	JoDaviess
Hurricane	Montgomery
Hyde Park	Cook
Illinois City	Rock Island
Ingraham	Clay
Indianola	Vermilion
Itaska	DuPage
Iuka	Marion
Jacksonville	Morgan
Jerseyville	Jersey
Joliet	Will
Jonesboro	Union
Joy	Mercer
Kampsville	Calhoun
Kankakee	Kankakee
Kansas	Edgar
Kellerville	Adams
Kewanee	Henry
Kilburn	Mason
Kinmundy	Marion
Knoxville	Knox
La Harpe	Hancock
Lake	Cook
Lake View	Cook
Lanark	Carroll
Laur	Jefferson
Lawndale	Logan
Lawrence	McHenry
Lemont	Cook
Lena	Stephenson
Leon	Whiteside
Lewiston	Fulton
Lincoln	Logan
Litchfield	Montgomery
Little York	Warren
Liverpool	Fulton
Lockport	Will
Loraine	Adams
Louisville	Clay
Lowder	Sangamon
Lowell	LaSalle
Macon	Macon
Marcelline	Adams
Marengo	McHenry
Marseilles	LaSalle
Mascoutah	St. Clair
Mattoon	Coles
McHenry	McHenry
McLeansborough	Hamilton
Medora	Macoupin
Mendon	Adams
Mendota	LaSalle
Meriden	LaSalle
Meredosia	Morgan
Metcalf	Edgar
Metropolis City	Massac
Millburn	Lake
Millmine	Piatt
Millington	Kendall
Milton	Pike
Mineral	Bureau
Moline	Rock Island
Monica	Peoria
Morea	Crawford
Morrison	Whiteside
Morris	Grundy
Morristown	Henry
Mound City	Pulaski
Mound Station	Brown
Mount Vernon	Jefferson
Moweaqua	Shelby
Mt. Pulaski	Logan
Murphysborough	Jackson
Naperville	DuPage
Nashville	Washington
Nauvoo	Hancock
New Boston	Mercer
New Grand Chain	Pulaski
New Holland	Logan
New Memphis	Clinton
New Philadelphia	McDonough
New Salem	Pike
New Windsor	Mercer
Nokomis	Montgomery
Normal	McLean
North Alton	Madison
Norwood	Mercer

PLACES.	COUNTIES.
Oakwood	Vermilion
Olney	Richland
Oregon	Ogle
Osage	Franklin
Ottawa	LaSalle
Padua	McLean
Pana	Christian
Paris	Edgar
Paxton	Ford
Paw Paw	Lee
Pearl Depot	Pike
Pecatonica	Winnebago
Pekin	Tazewell
Pellonia	Massac
Peoria	Peoria
Perry	Pike
Peru	LaSalle
Pesotum	Champaign
Petersburg	Menard
Philadelphia	Cass
Pittsfield	Pike
Plano	Kendall
Plattville	Kendall
Pleasant Plains	Sangamon
Polo	Champaign
Poplar Grove	Boone
Prairie-du-Rocher	Randolph
Pratt	Whiteside
Princeton	Bureau
Princeville	Peoria
Pullman	Cook
Quincy	Adams
Raritan	Henderson
Red Bud	Randolph
Richmond	McHenry
Richview	Washington
Rockford	Winnebago
Rock Grove	Whiteside
Rock Island	Rock Island
Rockton	Winnebago
Roodhouse	Greene
Roseville	Warren
Round Grove	Whiteside
Rozetta	Henderson
Rushville	Schuyler
Saint Jacob	Madison
Saline Mines	Gallatin
Salem	Marion
Samsville	Edwards
Sandwich	DeKalb
Sandoval	Marion
Sannemin	Livingston
Savanna	Carroll
School	White
Sciota	McDonough
Sebastopol	Madison

PLACES.	COUNTIES.
Seneca	LaSalle
Seymour	Champaign
Shabbona	DeKalb
Shawneetown	Gallatin
Shelbyville	Shelby
Sheridan	LaSalle
Shiloh Centre	Champaign
Shipman	Macoupin
So. Englewood	Cook
So. Evanston	Cook
Sparta	Randolph
Staunton	Macoupin
St. Charles	Kane
Sterling	Whiteside
Streator	LaSalle
Sullivan	Moultrie
Sunbeam	Mercer
Sunny Hill	Henry
Swan Creek	Warren
Sycamore	DeKalb
Taylorville	Christian
Tennessee	McDonough
Terre Haute	Henderson
Thomasborough	Champaign
Toledo	Cumberland
Tower Hill	Shelby
Tonica	LaSalle
Trenton	Clinton
Troy	Madison
Tuscola	Douglas
Union Grove	Whiteside
Urbana	Champaign
Verona	Grundy
Vienna	Johnson
Virden	Macoupin
Virginia	Cass
Wakefield	Richland
Warsaw	Hancock
Washington Heights	Cook
Waterloo	Monroe
Waterman	DeKalb
Watseka	Iroquois
Waukegan	Lake
Waverly	Morgan
Wayne City	Wayne
West Hallock	Peoria
Wheaton	DuPage
White Hall	Greene
White Willow	Kendall
Winchester	Scott
Winnebago	Winnebago
Woodstock	McHenry
Xenia	Clay
Yellow Creek	Stephenson

COMPILED from these reports are the following gross totals, from which it will be seen that these 224,360 inspections, covering 222,385 houses, disclosed nearly 475,000 defective sanitary conditions:

Total number of inspections made during the year	224,360
— — — houses and premises inspected	222,385
— — — defective conditions and nuisances disclosed	474,831
— — — defective conditions and nuisances remedied up to the close of the year	441,593
Character of Defective Conditions and Nuisances:	
Sites of houses—undrained, damp, etc	18,347[a]
Basements and cellars—damp, unventilated, unclean, etc	148,921[b]
Cesspools, sinks and drains—foul, untrapped, leaky, etc	13,828
Privies—foul, overflowing, improper location, etc	111,518
Water-closets—untrapped, foul, etc	1,582
Yards—damp, unclean, filthy, etc	59,996
Water-supply: Cistern—suspected, bad, etc	15,398
Well—suspected, bad, etc	26,879
Nuisances—by animals	7,900
public	1,986
private	10,272

In order to utilize as fully as possible the information collected and to facilitate reference to the inspector's original reports—as well as with a view of making the work continuous and permanent—a form for a Tabular Statement was prepared and furnished to each locality. The subjoined shows the arrangement of this form and the character of information which it presents:

NOTES.—[a] Exclusive of 64,204 houses on undrained sites not accounted unhealthy.

[b] Aggregate of the several defective conditions—one basement or cellar frequently combining two or more such conditions. Of the 170,648 basements and cellars inspected, 122,056 are reported "dry"; 107,838 "well ventilated"; and 114,946 in "good condition." See detailed table following.

STATE SANITARY SURVEY—1885.

ILLINOIS STATE BOARD OF HEALTH.

1885—HOUSE-TO-HOUSE INSPECTION.

TABULAR STATEMENT OF INSPECTIONS IN WARD NO......., IN THE CITY TOWN OF ....

No. of Blocks in the Ward...... *Boundaries of Ward:*........................

Inspector: ....

NOTE.—The numbers in parentheses "(4), (5)," and so on, at the head of the divisions below, have reference to the entries on the Inspection Returns which bear the same numbers.

	Entry Number	Inspection Return No.	(4) Site of House.				(5) House.				(6) Basement or Cellar.								(7) Cesspool Sink Drain.			
			Condition.					Material.					Ventilation.			Condition.			Condition.			
			Good.	Fair.	Bad.	Sewered.	Age years.	Wood.	Brick.	Other mat'l.	Dry.	Damp.	Good.	Fair.	Bad.	Good.	Fair.	Bad.	Good.	Fair.	Bad.	Sewer connection.

(8) Privy.				(8a) Water-closet.				(9) Yard.			(17) Water supply.			(10	(18) Nuisances.		(12) Occupants.				(13) Vaccinal Status.				
Condition.				Condition.				Condition.									White.		Colored.		Adults.			Children.	
Goop.	Fair.	Bad.	Sewer connection.	Good.	Fair.	Bad.	Sewer connection.	Good.	Fair.	Bad.	Hydrant.	Cistern.	Well.	Nuisances by animals.	Public.	Private.	Adults	Children.	Adults	Children.	Vaccinated.	Re-vaccinated.	Not vaccinated.	Vaccinated.	Not vaccinated.

(14) Sickness at date of Inspection.	(15) Sickness during past twelve months.	(16) Deaths during past twelve months.	Remarks

This form is printed upon heavy paper suitable for binding. Each sheet contains spaces for 50 entries, each entry giving the salient sanitary features of one inspection. Upon the back of the form is printed the following:

STATE SANITARY SURVEY—1885—ILLINOIS STATE BOARD OF HEALTH.

Tabular Statement of House-to-House Inspections—(Compiled from the Original Returns of Sanitary Inspections of Houses and Premises).

THE Tabular Statement, within, is intended to show at a glance the actual sanitary condition of every house at the date of inspection. In order to do this briefly, but comprehensively and without unnecessary labor, certain facts as to ownership, names of occupants, size of lot, area, etc., are omitted from the tabulation. If the sanitary condition of any given House and Premises is of such a character as to require attention, (as indicated by the Tabular Statement), the original Return of the Inspector must be consulted for these facts and for the details of condition.

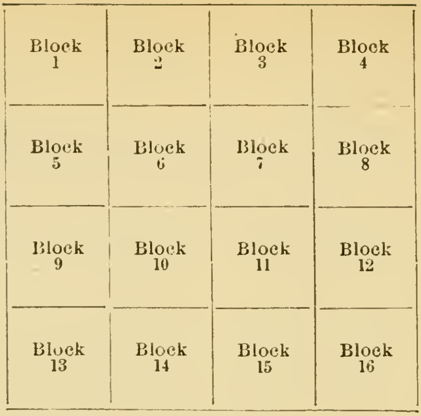
Hence it will be necessary to preserve the original Returns; and, for ready reference, they should be kept in their regular numerical order after the tabulation is made.

I.—INSTRUCTIONS FOR THE *Order* OF TABULATING.

THE following instructions (as to the *order* of making the Tabular Statement) are not applicable to villages and hamlets, or other small places, which are not divided into Wards. For such places all the necessary instructions are contained in the next section, II.—Instructions for the *Manner* of Tabulating—which see.

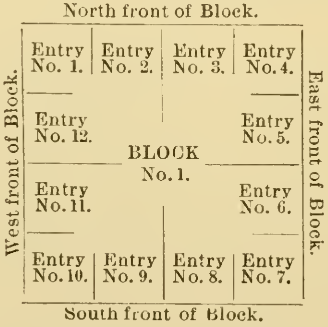
In cities and towns divided into Wards, tabulate the Inspection Returns of each Ward separately. Beginning with the heading of the Tabular Statement—

1st. Write in the *number* of the Ward.
2d. Strike out the superfluous word "City" or "Town," as the case may be, and write in the *name* of the place.
3d. Write in the *number* of Blocks or Squares in the Ward.
4th. Give the *names* of streets or other boundaries of the Ward.
5th. Write in the *name* or *names* of the Inspector or Inspectors responsible for the statements tabulated.
6th. For convenience, designate the blocks or squares in the Ward by numbers, beginning with No. 1 in the northwest angle of the Ward, and numbering from west to east, thus—



Ward No. 1.

Take the Inspection Return of the House and Premises situated on the northwest corner of Block 1, and enter its data on the first line of the Tabular Statement. The Inspection Return of the House and Premises next adjoining on the east will furnish Entry No. 2 of the Tabular Statement—and so on to the east end of the block. Then proceed south along the east front of the block, west on the south front, and north on the west front, to the place of beginning.



Proceed in the same manner with the remaining blocks in the order of their numbers—but continue the Entry numbers from one block to the next throughout the Ward. For example: The last entry in the diagram above given is numbered 12, consequently the entry for the first house in the next block will be 13.

II.—Instructions for the *Manner* of Tabulating.

The first and second columns explain themselves:—the Entry numbers will run continuously, from 1 upward, throughout the entire number of sheets necessary; the Inspection-Return number will be copied from each Return as tabulated.

As this Tabular Statement is intended to present only the *sanitary character* of the houses and premises inspected, certain details of fact, except where such may be readily indicated, are not given; but the *character* of the "Site of House"—of its "Cesspool, Sink or Drain"—of its "Water-closet," "Privy," "Yard," etc., are to be shown by check marks (✓) in the appropriate columns, Good, Fair, Bad.

The exceptions to this use of check-marks are:

1st.—The entries referring to Sewer and Sewer Connections in the columns (4), (7), (8), and (8a). The check-marks (✓) in these columns will indicate that the "Site of the House" (4) is *sewered*; that the house-drainage (7) the privy (8), or water-closet (8a), as the case may be, *is connected with a sewer.*

2d.—Age of House—number of years to be written in.

3d.—Water-supply:—The letters G F B (indicating *Good, Fair, Bad*), are to be written in the column under the proper heading, "Hydrant," "Cistern," "Well," as the case may be.

4th.—Occupants:—Write in the *numbers* of Adults and Children—White and colored respectively.

5th.—Vaccinal Status:—Give the *figures* in the proper columns, from the Inspection Return.

6th.—Sickness and Death: The entries in these three columns, (14), (15), (16), should give the *number* of cases (or deaths) and indicate, by contractions, whether *adults* or *children*, and *name* of disease. For this purpose the twelve principal diseases (from a sanitary standpoint) may be indicated by letters of the alphabet, as follows:

A—Cholera morbus,
B—Cholera infantum,
C—Diarrhea,
D—Dysentery,
E—Typhoid fever,
F—Diphtheria,
G—Cerebro-spinal fever
H—Scarlet fever,
I—Small-pox,
K—Erysipelas,
L—Consumption.
M—Pneumonia.

The entry of *one child* sick with *scarlet fever*, might then be made thus: *1 ch H.* Of the death of *one adult* and *two children* from *small-pox*, and of *one child* from *cholera infantum* ("summer complaint") would be *1 ad 2 ch I; 1 ch B.*

WHERE defects have been remedied and nuisances abated after the inspection was made, such improvements may be indicated by checks in red ink made in the proper columns. Thus, for example, on the original inspection return of a given House and Premises the facts of the condition of the Basement or Cellar were such as to warrant a check-mark (in the tabular statement) in the column "Bad." But the inspector subsequently reports the decaying vegetables and refuse removed, the walls and ceilings whitewashed and fresh lime sprinkled over the floor. Indicate this improvement by a check-mark in red ink in the column "Good."

Under the head of "Remarks," such nuisances as are caused by slaughter-houses, manufacturing or industrial establishments or occupations, stagnant water, defective sewerage or drainage, graveyards, etc., etc.—whether of a public or private nature—should be clearly specified in connection with the Houses and Premises affected thereby.

The Tabular Statement is furnished in duplicate—one set to be retained, and one set to be returned to the Secretary when completed. One single letter-rate (2 cents) only need be prepaid on this return set. Any additional postage will be paid on receipt.

It is not believed that any further explanation is necessary; but correspondence with the Secretary's office on this subject, or any other connected with the House-to-House Inspection and Sanitary Survey, is invited.

Additional sheets of the Tabular Statement will be furnished on application to the Secretary.

The totals from the Tabular Statements of 27 towns—fairly representative of the entire State—are given on the succeeding pages. A brief study of the entries for any given town in this list will suffice to show how complete a presentation of the sanitary features may be made through this summarizing of the individual inspections.

Recapitulation of Tabular Statements of House-to-House Inspections in 27 Towns.

Towns.	Total No. of inspections......	Total No. of houses inspected	Site of House.				House.			Basement or Cellar.							
			Condition.			Sewered........	Material.			Dry....	Damp	Ventilation.			Condition.		
			Good.....	Fair......	Bad		Wood....	Brick	Other material			Good.....	Fair......	Bad	Good....	Fair.....	Bad ......
Athens..............................	145	145	37	98	10	....	130	16	....	51	36	32	28	27	32	28	27
Beardstown	706	705	705	....	....	....	651	65	....	626	6	621	44	9	665	4	6
Bloomington	4,030	4,030	2,060	1,958	12	170	3,677	2,610	67	2,527	607	2,323	475	336	2,328	562	214
Bunker Hill	343	339	216	83	10	....	272	55	1	84	201	106	116	67	93	116	53
Carlinville..........................	675	675	544	124	7	....	536	163	180	213	141	292	50	41	293	42	12
Chester	517	516	391	120	5	1	366	127	15	278	68	103	6	26	195	16	20
Collinsville'.........	521	517	371	143	3	5	421	111	....	373	92	231	182	49	211	161	43
Galesburg	2,441	2,397	1,480	750	167	148	2,231	208	5	1,604	478	1,444	448	100	1,316	557	181
Geneseo	817	843	603	209	31	....	757	79	....	51	9	408	248	71	417	246	73
Gillespie	158	158	60	95	3	....	154	4	....	26	6	8	19	5	9	18	5
Grant Park..........................	83	82	46	35	1	....	76	3	6	15	3	10	4	5	5	9	......
Greenville	327	327	220	107	....	....	280	47	....	95	84	93	45	52	95	42	48
Highland	395	394	61	325	8	....	224	146	....	259	94	271	48	31	211	76	30
Highland Park.......................	295	295	251	40	4	98	248	38	....	171	79	138	40	51	165	29	51
Hillsboro	419	417	379	31	7	....	289	129	....	252	99	200	90	58	281	32	34
LaHarpe..............................	241	240	106	111	23	95	214	26	....	101	48	94	33	22	85	41	21
Lincoln	944	904	679	162	63	....	895	9	....	119	89	3	2	2	305	89	58
Mt. Vernon..................	522	522	390	119	13	....	485	57	....	138	14	137	10	3	132	10	10
North Alton.........................	161	161	161	....	....	....	115	47	....	12	18	......	......	......	108	2	2
Paxton...............................	466	449	109	338	2	36	412	36	1	372	71	253	115	75	287	138	18
Perry ...., ...	150	149	37	107	5	....	134	12	4	......	130	13	75	6	24	76	2
Pleasant Plains	131	133	....	133	....	....	125	8	....	74	6	67	11	3	67	10	2
Prairie du Rocher.................	78	78	29	23	26	....	61	11	1	39	9	18	16	11	28	10	7
Rushville	400	400	230	117	53	11	355	11	....	88	40	91	3	31	91	4	35
Sparta	426	383	256	119	8	....	316	88	....	170	26	117	196	20	50	202	17
Troy	157	157	111	41	2	....	125	32	1	45	73	60	37	21	64	37	28
Urbana	704	704	670	29	5	....	638	65	......	227	196	236	90	91	228	117	78
Totals..............................	16,288	16,120	10,232	5,420	468	564	14,193	4,269	281	8,340	2,723	7,375	2,431	1,222	7,867	2,677	1,138

Recapitulation of Tabular Statements of House-to-House Inspections.—CONTINUED.

TOWNS.	CESSPOOL, SINK, DRAIN.				PRIVY.				WATER CLOSET.				YARD.			WATER SUPPLY.			NUISANCES.		
	Condition.			Sewer connect'n	Condition.			Sewer connect'n	Condition.			Sewer connect'n	Condition.			Hydrant......	Cistern........	Well....	By animals.....	Public..........	Private........
	Good.....	Fair......	Bad		Good.....	Fair......	Bad		Good.....	Fair......	Bad		Good.....	Fair	Bad						
Athens	....	....	1	....	5	47	75	....	....	....	....	....	48	48	36	......	53	134	....	....	4
Beardstown	5	...	....	4	648	16	37	4	2	....	1	2	653	37	3	5	426	641	56	....	....
Bloomington	340	99	12	546	1,947	834	836	58	176	6	10	185	2,648	833	199	916	2,966	2,423	21	6	395
Bunker Hill	1	....	....	....	40	152	136	1	1	....	...	...	127	150	47	......	237	392	....	7	13
Carlinville	24	....	2	4	414	122	75	3	2	....	2	1	481	112	38	.....	392	565	....	4	53
Chester	5	1	1	....	358	52	46	....	4	....	....	....	402	56	24	1	423	36	....	....	....
Collinsville	294	204	19	5	152	157	184	....	186	43	4	....	272	207	49	2	415	342	16	3	62
Galesburg	468	82	50	65	1,046	719	449	7	1	3	1	....	1,610	542	146	58	1,677	2,139	....	19	14
Geneseo	53	47	3	10	454	279	92	1	3	5	....	2	546	232	17	26	722	740	....	2	....
Gillespie	1	....	....	....	52	80	21	....	....	....	....	....	104	51	3	......	33	141	....	....	....
Grant Park	5	4	1	2	11	56	13	1	....	1	....	....	28	50	9	......	42	44	2	2	6
Greenville	2	20	18	....	201	12	102	....	1	....	....	....	197	43	63	6	320	14	2	10	4
Highland	3	64	1	2	166	107	80	2	....	....	....	....	306	50	6	......	251	339	1	1	...
Highland Park	130	10	13	36	162	32	86	5	10	1	6	42	197	33	11	2	136	239	2	8	5
Hillsboro	29	3	7	....	317	5	68	....	2	....	....	....	381	14	8	......	301	268	8	....	....
LaHarpe	181	17	20	3	82	68	77	....	....	....	....	...	90	85	65	......	86	214	2	8	36
Lincoln	110	40	9	29	781	15	134	6	....	....	....	....	855	25	50	......	386	803	397	....	..
Mt. Vernon	1	....	1	....	393	98	17	1	....	....	....	....	362	147	18	......	349	229	1	10	11
North Alton	....	....	....	....	86	37	28	....	....	....	....	...	161	......	......	......	144	78	....	5	11
Paxton	28	18	5	30	134	47	227	10	3	....	....	3	267	97	99	......	......	......	....	6	2
Perry	....	....	....	....	15	92	39	...	....	....	....	...	15	101	33	......	114	124	....	....	2
Pleasant Plains	3	7	....	....	81	10	22	....	....	....	....	....	97	28	6	......	27	101	...	2	....
Prairie du Rocher	....	1	6	....	18	8	41	....	....	....	....	....	24	30	23	......	37	41	10	10	8
Rushville	133	3	1	19	154	77	148	4	6	....	....	1	266	78	40	......	164	369	4	4	6
Sparta	....	5	6	5	194	114	58	7	1	9	....	2	244	99	35	......	250	200	19	1	2
Troy	....	....	....	..	54	40	56	....	1	....	....	....	123	26	6	......	79	144	....	5	56
Urbana	537	89	63	2	171	209	299	14	7	10	3	....	533	123	47	......	310	613	9	16	3
Totals	2353	714	239	762	8,136	3,485	3,449	124	406	78	27	238	11,037	3,297	1,081	1,016	10,340	11,286	550	129	693

Recapitulation of Tabular Statements of House-to-House Inspections.—CONCLUDED.

Towns.	Occupants.				Vaccinal Status.					Sickness at date of inspection..........	Sickness during past twelve months......	Deaths during past twelve months......
	White.		Colored.		Adults.			Children.				
	Adults......	Children...	Adults......	Children...	Vaccinated	Re-vaccinated.	Not vaccinated	Vaccinated	Not vaccinated.			
Athens.....................	345	249	1	....	234	105	7	155	94	1	18	7
Beardstown..............	1,732	1,409	......	....	1,243	415	74	895	514	2	6	12
Bloomington	10,611	7,203	192	134	7,728	2,873	202	5,258	2,079	....	......	...
Bunker Hill...............	792	624	33	31	395	409	21	455	200	9	34	19
Carlinville,.................	1,644	1,178	9	2	1,225	362	66	721	459	15	66	24
Chester..................	1,288	1,037	61	46	1,293	......	56	661	422	2	41	10
Collinsville.......	1,436	1,386	71	125	1,027	356	121	880	631	4	27	9
Galesburg..	6,813	3,920	344	193	5,768	986	403	2,553	1,560	27	182	65
Geneseo....................	......	......	......	....	......	......	......	......	......	6	......	....
Gillespie..	395	445	......	...	372	15	8	214	201	....	4	...
Grant Park...............	181	114	.....	...	161	11	9	61	53	..	......	1
Greenville.................	826	730	7	9	259	527	47	448	291	12	12	12
Highland.	1,003	617	......	....	919	56	28	487	130	5	18	10
Highland Park....	813	763	2	...	513	273	29	545	218	8	10	9
Hillsboro..................	920	619	29	29	726	205	18	418	230	5	22	12
La Harpe.................	665	381	1	2	349	283	37	223	160	14	73	16
Lincoln......................	2,387	1,893	77	59	2,170	249	45	1,236	716	7	69	16
Mt. Vernon...............	1,525	897	40	38	797	480	288	562	373	68	111	21
North Alton	396	315	35	48	425	......	6	293	70	2	15	3
Paxton......................	1,076	1,172	7	11	283	743	57	918	265	9	43	9
Perry,.....	342	217	......	....	330	2	10	154	93	...	......	....
Pleasant Plains..........	265	214	......	....	241	10	14	147	67	4	12	5
Prairie-du-Rocher	184	148	22	30	31	169	6	111	67	5	14	9
Rushville.......	1,245	777	1	2	800	265	181	548	231	26	174	21
Sparta.....................	748	534	80	93	437	325	66	397	230	28	33	13
Troy.........................	398	346	3	2	181	211	9	225	123	3	49	7
Urbana......................	1,925	1,024	15	7	411	1,485	44	643	388	5	61	15
Totals..................	39,955	28,242	1,033	861	28,318	10,815	1,855	19,238	9,865	267	1,091	325

FOLLOWING are the aggregates for the 395 towns based on the foregoing:

Total number of Houses and Premises inspected........	222,385
*(4) Site of House:	
good..	139,830
fair..	76,628
bad...	5,923
sewered..	8,295
*(5) Material of House:	
wood	115,928
brick	50,463
wood and brick	51,679
other material	4,315
*(6) Basement or Cellar:	
dry...	122,056
damp..	39,894

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*These numbers refer to the corresponding ones on the Inspection blank.

	Ventilation—			
	good			107,838
	fair			35,550
	bad			17,892
	Condition—			
	good			114,946
	fair			39,104
	bad			16,598
*(7)	Cesspool–Sink–Drain:			
	good			34,355
	fair			10,270
	bad			3,558
	sewer connection			11,060
*(8)	Privy:†			
	good			118,892
	fair			50,955
	bad			50,563
	sewer connection			1,580
	Water-closet:			
	good			5,925
	fair			1,186
	bad			396
	sewer connection			3,555
*(9)	Yard:			
	good			163,138
	fair			48,190
	bad			15,806
*(17)	Water-Supply:			
	Hydrant			15,010
	Cistern—			
	good			135,888
	fair			10,262
	bad			5,135
	Well—			
	good			138,250
	fair			21,334
	bad			5,535
*(18)	Nuisances:			
	By animals			7,900
	Public			1,975
	Private			10,270
*(12)	Occupants			
	White adults	584,623		
	children	413,270		
	Total white		997,793	

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*These numbers refer to the corresponding ones on the Inspection blank.
†See appended comments.

Colored adults	15,245		
children	12,664		
Total colored		27,909	
Total adults			599,863
children			425,834
Grand total	1,025,702	1,025,702	1,025,702

*(13) Vaccinal Status:

Adults vaccinated	414,355	
revaccinated	158,248	
		572,603
not vaccinated†	27,265	
Children vaccinated	329,709	329,709
not vaccinated†	96,125	
Total vaccinated and revaccinated		902,312
Total not vaccinated	123,390	

There are two points in the foregoing which are worthy of especial attention and comment. The figures in entry No. 8 indicate the extent of one of the gravest sanitary evils with which the present generation should deal, and one which, unless dealt with efficiently by the present, will entail serious trouble in the future. Nearly a quarter of a million surface and sub-surface storage receptacles of excreta are here reported for considerably less than one-third the total population of the State. It is entirely safe to estimate the total number of these at fully a half million in the entire State,—each one of which is a center of soil, air and water pollution. If it be assumed that the homes of one-fifth the population of the State are provided with water-closets properly connected with sewers for the prompt removal of excreta by water carriage, and that another 50,000 of the population use some form of earth-closet for the safe disposal of these wastes, it would still leave a daily production of nearly 430,000 lbs., or about 192 tons, of solid and 715,000 gallons of liquid excreta to poison the surroundings of every habitation. Computed for a year these figures would reach the enormous totals of 156,835,755 pounds, or 70,014 tons of solid, and 260,975,000 gallons of liquid organic wastes of the most offensive and deleterious character.

Over one-half of these places are reported in "good" condition. But for the sanitarian a "good" privy vault recalls the frontier definition of a "good Indian." Not until the vault has been emptied, disinfected and filled up with clean, fresh earth—in other words, not until it ceases to exist as a vault—can it be deemed "good" in a rigid sanitary sense.

The second point is suggested by the statistics of the vaccinal status of the population. A wide disparity is here shown between the proportions of adults and of children, vaccinally protected and not protected. Assuming, as is done in the table, that all those

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*This number refers to the corresponding one on the Inspection blank.
†See appended comments.

not positively reported "vaccinated" or "revaccinated" have not been vaccinated at all, it would appear that while over 95 per cent. of the adults are protected by vaccination or revaccination, less than 78 per cent. (77.4) of the children are thus protected—the average for the entire population, all ages included, showing 12 per cent. of unvaccinated.

This would imply an ominous neglect of vaccination among those born since 1883—an analysis of these figures and of those in the Fifth Annual Report,* leading to the conclusion that these 96,000 children reported unvaccinated must be made up of only two classes, namely, those below the school age in that year—and, consequently, not then affected by the School Vaccination Order—and of the subsequent additions to the child population. As a result of the efforts of the Board during the Small-Pox Epidemic, 1881–83, nearly 93 per cent. of the school-children in the State were vaccinally protected at the close of the epidemic. If this proportion was maintained among those in attendance during 1885,—and there is reason to believe that it was, substantially—the unvaccinated children reported by the sanitary inspectors must be almost entirely those under 6 years, the minimum school age. These form 14.6 per cent. of the population at all ages, and in the total population returned by the inspectors would number 149,752. If 3 per cent. of the total reported unvaccinated be admitted to belong to the ages over 6—and this is believed to be in excess of the actual number—it would leave 62 per cent. of unvaccinated among infants and children under the school age.

The accumulation of non-vaccinated persons is one of the most dangerous factors of a small-pox epidemic: and, although this accumulation is kept down in Illinois wherever the Vaccination Order of the Board is enforced by the school authorities, the neglect of infant vaccination and the postponement of the operation to the school age is open to many and serious objections. As has been so often urged by the Board, it is never too soon to vaccinate. The primary vaccination should always be performed during the first twelve months of infant life—a period sufficiently long to afford proper preparation, care in the selection of virus, and due attention to other important details.

INSPECTION IN THE CITY OF CHICAGO.

During the spring, copies of the various blanks, forms, instructions, etc., prepared for the House-to-House Inspection in the State, were furnished from time to time to Dr. O. C. DeWolf, Health Commissioner of Chicago, who had secured a special appropriation of $100,000 for the purpose of increasing his force of house-to-house inspectors and also increasing the scavenger service of the city during the summer months. This appropriation was granted in June, and on July 1st the regular inspecting corps of eighteen men was increased to fifty-five men, who were continued in service until October 1st.

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* Vaccination in Illinois, pp. 369–480.

Between April 1 and November 15, this corps examined and made detailed report of the condition of 77,103 buildings, classified as follows, viz: 54,642 dwellings occupied by 101,532 families, or 467,390 persons; 19,693 factories or places of employment at labor, containing 141,065 operatives; and 2,768 new buildings examined, pursuant to the State law, during their construction and before occupancy.

A detailed report was made of each examination, which reports are now classified and alphabetically arranged and filed in the office of the Commissioner of Health—the basis of the report being the House-to-House Inspection blank, modified from that prepared by the State Board of Health, so as to meet the conditions which obtain in the large cities.

Dr. DeWolf has kindly furnished the material results of this inspection as set forth in the report of his Chief Inspector, Mr. W. H. Genung; and in his annual report the Health Commissioner says: "The character and importance of this work as a basis for a sound and permanent sanitary advance, and its importance, imperfect as it still is, have been largely instrumental in decreasing our death-rate, until we have touched a figure in 1885 that ten years since I did not deem possible in this city,"* and in commenting upon the reduction in the death rate from zymotic diseases especially —"a class of causes most directly under the control of the sanitarian"—he adds: There can be no question, that much of this decrease in the preventable mortality was due to the house-to-

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*For the five years previous to 1885 the annual average death-rate in Chicago, from all causes was 21.8 per thousand. Last year it was 18.7 per thousand, which is equivalent to a saving of 2,068 lives per annum of the present population. The following table shows the annual death rate of each year since 1880; the number of deaths computed at each such rate on the population of 1885; and the relative decrease in 1885 as compared with the mortality of each of the previous years:

DEATHS FROM ALL CAUSES.

YEAR.	Deaths per 1,000.	Deaths computed on population of 1885.	Actual No. of deaths in 1885	Comparative decrease in 1885
1880	20.8	13,824	**12,474**	1,350
†1881	†25.7	†17,081		4,607
†1882	†23 6	†15,685		3,211
1883	19.9	13,226		752
1884	19.8	13,159		683

† Small-pox epidemic.

house inspection and kindred efforts which were made possible through the special appropriation in anticipation of cholera.[*]

These figures show that the saving of life is much more marked in this special class than in that from all diseases and causes. Thus, while the relative decrease from all causes, as compared with last year, was 683 in a total of 12,474, it was 485 in a total of 3,210 from the zymotic group alone. In other words, while the reduction in the general death-rate was 5.4 per cent., it was over 15 per cent. in the class of diseases due to the insanitary conditions which the House-to-House Inspection and State Sanitary Survey were intended to call attention to and secure the remedy and abatement of. What is true of Chicago it is only fair to infer is true of the State at large.

Chief Inspector Genung's detailed report is as follows—omitting sundry matter not pertaining to the house-to-house inspection proper:

The inspectors examined a total of 77,103 buildings, classified as follows, viz.: 54,642 inspections were made in places of habitation, 5,618 of which were made pursuant to request from occupant or owner of premises examined.

These 54,642 buildings were all occupied as dwellings, and contained 101,532 families, consisting of 467,399 persons, 239,859 being males and 227,540 being females, 173,916 of whom were children under 15 years of age.

There were 2,768 *new* buildings examined pursuant to the State laws during their construction and *before* occupancy.

There were 19,693 inspections made in the 26,172 factories, stores and other places of employment at labor within the city, * * * 754 of which were made pursuant to complaints made to this department by employés in premises examined.

These 19,693 places of employment contained 144,065 employés (operatives), 116,195 of whom were males and 27,870 were females, 2,801 of the whole number being persons under 15 years of age.

The ratio of notices to be served in this class of work has steadily decreased for the past five years, until the necessity for serving such notices is not more than one-third as great as formerly. The principal reason for this is that nearly all the necessities for serving such notices consist in applying remedies of a permanent char-

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[*] The following table shows the death-rate from the zymotic diseases in Chicago, for each year since 1880; the number of deaths computed at each such rate on the population of 1885; and the relative decrease in 1885 as compared with the zymotic mortality of each of the previous years:

DEATHS FROM ZYMOTIC DISEASES.

YEAR.	Deaths per 1,000.	Deaths computed on population of 1885.	Actual No. of deaths in 1885.	Relative decrease in 1885.
1880	6.62	4,399	....	1,189
†1881	†7.80	†5,184	....	1,974
†1882	†8.00	†5,317	....	2,107
1883	5.26	3,496	....	286
1884	5.56	3,695	....	485
1885	4.82	......	3,210	.....

† Small-pox epidemic.

acter, where deficiencies are found, chiefly in plumbing, drainage, ventilation, protecting dangerous machinery, which, while in motion, is likely to injure operatives; providing safe exits in case of accident or fire, and supplying proper appliances to machinery for removing excess of dust, vapors, etc., generated by the operation thereof.

Another reason is that the operatives are generally familiar with the requirements of the law and do not hesitate to make complaints to this department whenever the laws are violated; therefore the employers anticipate the visits of the inspectors and usually apply these requirements without formal notice from this department.

The results of the enforcement of this law as a whole are most noticeable in factories erected or converted within the last three or more years. In these are found all the conditions required by the laws for the safety and health of the employes, such as proper plumbing, drainage, light, temperature and cubic air space. * * *

It must be borne in mind that this total of 77,103 written reports filed represent the first examination only; also that for every notice served, at least one reëxamination must be made to see if the notice has been complied with. However, it often happens that the persons notified either neglect or positively refuse to comply with the written notices, in which case a suit is brought in court after several visits have been made and all reasonable leniency has been granted.

If we admit that for every notice served there was an *average* of two extra visits made before and during prosecution, then we should add nearly 45,000 to the total number of examinations given, which would then make the total number of actual examinations made 122,103.

The whole number of written notices served was 22,208, which were generally complied with within a few days from the day of service, as will be seen by the comparatively small number of suits brought, viz.: 267, and in all of which the department obtained judgment in favor of the city ordinances, and ultimately a strict compliance with the written notices previously served.

It may be proper to call attention to the fact that the courts of our city have, without an exception, recognized the importance and necessity of the sanitary demands made by this department upon the citizens it has caused to be brought before them.

In compliance with the demands of the before-mentioned written notices, the following improvements were effected, viz.:

Defective plumbing repaired	3,372
Traps applied to waste pipes	3,048
Ventilation applied to waste pipes	50
" " " living rooms	197
" " " work shops	125
" " " water-closet rooms	110
Defective sewers and drains repaired	2,010
New house drains constructed	1,523
Catch-basins built	230
" " cleaned	250
" " repaired	90
Privy vaults cleaned	10,960

Water closets constructed	110
Rooms lime washed	1,235
Leaking roofs repaired	335
Uninhabitable buildings condemned	19
Filthy yards cleaned	3,930
Miscellaneous	2,384
Total	30,978

By a special appropriation the department has been enabled to cause a house-to-house examination to be made on every street in the city, except those classed as strictly "residence" streets of the most expensive and thoroughly improved character. This work was begun during the first week in April, and continued without cessation until the middle of November following.* The method adopted was to apply the entire working force of inspectors in the most insanitary localities first, following this with the next most urgent localities, and so on to the end of the work, assigning an inspector to a particular street in each locality and requiring an examination to be made of *every inhabited building* on *each* street.

This examination required the inspector to personally investigate every room or other portion of the building proper, the plumbing, drainage and ventilation provided for it, and the sanitary condition of the cellar, yard, privy, cesspool, alley and street adjoining. They were required to cause all filth or other nuisance to be immediately removed and defective plumbing and drainage to be properly repaired within a week from the day of inspection, or in case of failure so to do, the persons refusing were immediately brought into court and fined, the prosecutions being repeated until the work demanded under the ordinances was performed.

Nineteen buildings were condemned under the law as being unfit for habitation, and two buildings were torn down by the citizens in their vicinity during the condemnation litigation of this department. The inspectors were required to report to this office all garbage, manure or other improper material found in any alley or street or upon any vacant lot or public ground, which was in turn transmitted to the day scavenger force for immediate removal. All filthy street gutters or choked catch-basins were immediately reported to the Street Department, which caused the gutters to be drained and cleaned, and all obstructions to be removed from the public sewers and catch-basins.

By this method and with the active and harmonious assistance of other city departments, the city was placed in a far better sanitary condition than ever before. * * *

In order that all the inspectors might work uniformly and with equal thoroughness, the following form of report was used, requiring more than fifty questions relating to the premises examined to be answered in writing by the inspector:

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*From July 1 to October 1 a force of 55 men were employed in these inspections. Before and after these dates the work was performed by the regular force of 18 ward inspectors.

BLANK REPORT FOR HOUSE-TO-HOUSE EXAMINATIONS.

DEPARTMENT OF HEALTH.

INSPECTOR'S REPORT TO THE

COMMISSIONER OF HEALTH,

CITY OF CHICAGO.

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1. Date.......................18 . Location..........................Ward............
2. Owner or Agent....................................Address..................................
3. Description of Building (stories, size, material)...
4. No. of families in building.............Rooms.................Persons..........
   Male............... Female................Boys.................Girls................
5. Is there a store............workshop...........factory.............on these premises?
   Where?...
6. Kind of business..............................Employer...............................
7. No. of Employés..........Males..........Females..........Boys..........Girls.........
8. Are there any dark..........damp.........filthy........or unventilated rooms?........
9. Are the water-closet rooms clean..............and properly ventilated?..............
10. Description of out-houses...........................How used?........................
11. Is surface of lot below street level?....................How much?..................
12. Are the plumbing works in good repair?..............and well trapped?..............
13. Are the buildings..........and yard..........properly connected with sewer?........
14. Is the cellar well ventilated?..............Clean?..............And dry?.............
15. What part of premises need limewashing?..
16. Sanitary condition of space under building...........Yard...........Alley..........
    Street gutter................Corner catch-basins................Vicinity.............
17. No. and location of catch-basins.............Water closets ....Privies..........
18. Sanitary condition of such C.-B.................W.-C.................P.................
19. Nuisances—State of what they consist..
20. Is the water supply adequate.......................On each story?.......................
21. Violation of ordinance.......................................Action........................
22. Remarks:..

....*Inspector.*

[*On the opposite side of this report is printed a blank form for classification and filing*.]

Another important work which this special appropriation enabled the department to accomplish was the removal at the expense of the city of more than twenty-five hundred cubic yards of filth and general débris from the houses, yards and areas of the Italian tenement-house districts. Laborers were employed to enter with an officer of the department every house, barn, shed or yard in these localities and remove every unclean thing from within or underneath the buildings and sidewalks and from and between the buildings, and in fact from every place where filth was to be found in any form, and place it in large heaps in the alley or street adjoining, from whence it was immediately removed to some point outside the city by men and teams employed for that work.

All the work described in the foregoing was accomplished in addition to the work performed by this department in prior years, the house-to-house or *clean-as-you-go* method having never before been adopted, though much desired, because of a lack of funds to prosecute the work in a systematic manner.

The whole number of inhabited buildings examined under this system, and for each of which a written report is now on file in this department, was 49,024, which report represents the first examination only, no subsequent or re-examination being accredited or shown on the books of record.

During the first eight weeks of this work,the written notices served to abate nuisances, repair drainage, plumbing, roofs, etc., about equal the number of buildings examined, thereby showing the great necessity for this class of work in the districts inhabited by the very poor and in the tenement-house localities. As the inspectors emerged from these localities and transferred the house-to-house work into "rented" buildings on improved streets, the insanitary conditions found gradually decreased until the average for the *whole year* was very nearly one notice served for every three examinations made.

However, the character of the work in this class of houses differed very materially from that performed in the former class, in that the cause or need for serving notices consisted generally in permanent nuisances or defects in the plumbing, drainage, lighting and ventilating of the houses, and very little filth and other temporary nuisances were to be found in or about them.

In the former class the ratio of defects found in the plumbing, drainage, etc., was nearly as great, but the total number of such defects were very small as compared with the latter class of work, because it was the exception rather than the rule to find plumbing and drainage facilities of any kind in the beginning of the work, while the filth nuisances were found in very nearly every portion of these inferior buildings and grounds. The whole cost of this special house-to-house work, including salaries of inspectors, laborers, teams, disinfectants, printing and stationery, was $13,031.48.

The number and character of the improvements effected in this class of work will be found elsewhere in the report in tabular form, all of which was performed at the expense of the owners or occupants of the premises examined.

A special insanitary condition of the Italian tenement-house districts is the general tendency to over-crowding, there being in many instances an entire family occupying each and every room in a building.

Great vigilance is necessary to overcome this growing evil, and on the first day of last July an inspector was detailed to work in this district permanently, and visit each house as often as twice every month. This constant and persistent inspection has been the means of greatly improving the general sanitary condition of these localities, and is the method to be adopted in the future throughout the year.

The mortality reports for the year show that about *one-half* (6,187) of the total number of deaths within the city, was among children *less* than *five* years of age, and it is believed that fully 10 per cent. of this number was destroyed through unsanitary conditions surrounding them, and another 10 per cent. from insufficient clothing and nourishment,

These conditions are generally easily preventable, because it is the exception where they are found to be a necessity from poverty; therefore, the laws should provide a remedy and punishment for those who are avaricious or neglectful, and the charitable institutions will provide for the deserving.

If our estimates be even approximately correct, then nearly 1,250 children die each year within our city from preventable causes. Should not the laws be so amended as to prevent at least a part of this needless mortality?

THE HOUSE-TO-HOUSE INSPECTION IN OTHER PLACES.

Special mention should be made of the following towns, which were among the first to respond to the efforts of the State Board, and promptly inaugurated the systematic inspection of houses and premises and the abatement of nuisances and remedy of defective sanitary conditions. These are not invidiously selected and are by no means to be taken as a measure of the actual work accomplished. There are hundreds of other places where equally good work was done, but from which the detailed reports have not yet been received. The Board has been less concerned with the clerical record of the work than with the work itself; and has, therefore, made no special effort to secure the duplicate copies of the Tabular Statements and other documents, many of which are withheld until the completion of the work during the coming year.

Such a condition of affairs as is portrayed in the subjoined letter is the rare exception, at least as to the apathy and indifference of the authorities. That the same insanitary conditions obtained to a very large extent in many other places, the reports and statements subsequently received leave no room to doubt:

"Every day I read of the good work your honorable Board is doing in all parts of the State. I have also seen its splendid effects in Gillespie, Litchfield, Carlinville, Taylorville, etc. I have for three months been patiently waiting, hoping to be able to witness an effort on the part of our village authorities to clean our town of 3,500 inhabitants, a majority of whom are coal miners, composed of

Saxon, French and Italian emigrants, of a part, at least, of its abundant rubbish, slops, swills, pig-pens, hen-roosts, stables, cow-sheds and old privies, which have never been cleaned nor even disinfected, but used for forty years, all of which can be found crowded upon almost any little lot 50x105 feet located upon Main street. All that is necessary for a person of taste and refinement to be made to wish that his olfactory nerves had never been developed is to take a stroll along any of the principal streets and thoroughfares, to say nothing of any of the alleys, just after dusk, and breathe the purest of air of heaven contaminated, as it always is, by the poisonous and noxious gases that are constantly arising from the one common cesspool of putrid and decaying animal and vegetable matter. Nor is the decomposition of so much filth without its contaminating influence. Almost every infant in the town is under the physician's care for summer complaint, or diarrhœa, while the parent, many times, is all doubled up from cholera morbus. The church bell is almost constantly tolling, while from one to three funeral processions daily, mournfully and sadly, march to the cemetery, with the only comforting thought that the departed one will be relieved from longer breathing the foul stench that continuously curses our people.

"Our board would doubtless do if they knew how, but I venture to assert that not a single member could tell you to-day the meaning of sanitary measures, much less what constitutes pure air, water, light, etc., all of which are so essential to life and health in sickly seasons of epidemics. And yet this board, instead of organizing a board of health, with men of knowledge and ability (physicians, for instance,) that have the moral courage to enforce obedience to their mandates, have pretended to organize a board of health out of the material afore-described, with no village attorney, no men of science, no person with proper medical and sanitary knowledge, all of which could be easily obtained. We have as good physicians as in the State.

"Our sanitary conditions grow daily worse instead of better, until a universal murmur may be heard from every thinking man and woman. But our Board imagine they are powerless against those foreigners who seem to think their nuisances concern no one but themselves, and refuse to remedy the evil. I have heard no less than seven of our principal business men to-day declare that did they not hate to incur the enmity of the Board they would make complaints to your honorable body. Of course what is everybody's business is nobody's business, and it may be bad policy for me to complain, but the pitiful wail of anguish and grief, constantly emanating from the continuously increasing broken-hearted mothers for the loss of the little darling buds-of-promise has driven me to this course as the last resort to have our Board do their duty for the protection of the citizens. Without a more careful observance of the sanitary rules for the government of our people, woe unto the State if cholera ever strikes St. Louis, as the coal company of this place employs so many men one day here and the next there, that the contagion would be almost certain to reach here, and our present inefficient board would permit the people to scatter from here like so many frightened sheep, carrying the pestilence to the four points of the compass."

Athens, Menard county:

Inspectors, W. J. Pierson and H. T. Smith. Total number of houses and premises inspected, 145. Total number of insanitary conditions and nuisances discovered and abated, 408. Correspondence concerning the inspection received from G. G. Curnutt, village clerk.

Beardstown, Cass county:

Health Officer, H. Ehrhardt, M. D.; Inspectors, Sylvester Wyles and Hy. Durham. Total number of houses and premises inspected, 705. Total number of insanitary conditions and nuisances discovered and abated, 242. This small number is due to the fact that, immediately on receipt of the circulars from the State Board of Health, the following proclamation was issued by the Mayor of the town, after consultation with the local board of health:

You are hereby notified that, beginning on May 1, 1885, the local health board will make a careful and thorough sanitary investigation of your premises, and from time to time, as they may deem necessary. Your attention is called to the abating of nuisances, if existing in yards, filthy pig-sties, open slop holes, bad privies or vaults, mouldy and filthy cellars or basements, cesspools, bad wells, insecure or dangerous buildings, etc. As all pig-sties will be condemned as nuisances, it is earnestly requested that property-owners will not allow the same on their premises. You are hereby ordered to pay attention to this notice, the preservation and improvement of public health depending upon the enforcement of the law governing this matter.

Then follows a note as to best disinfectants, and the injunction that personal responsibility and duty to the community demand that every householder should see that his or her premises and surroundings are placed in the best possible sanitary condition without delay. Accompanying the proclamation was a blank notice of what constituted a nuisance, and a warning that its provisions must be complied with or the penalties of the law would be enforced.

A satisfactory report of the sanitary condition of Beardstown was soon after made by the health board, and the Tabular Statement of the House-to-House Inspections, subsequently received, shows that the proclamation and the efforts of the local health board had a very salutary influence.

The following form of notification was prepared and served after inspection—the first blank line being filled out with the name and address of the individual owner or occupant, and the other blanks with a description of the conditions requiring attention:

BEARDSTOWN, ILL., ... 1885.

....

The State Board of Health has instructed all local health committees to make a careful and thorough sanitary investigation of their respective cities, towns or villages, as they may deem necessary from time to time for the preservation and improvement of public health.

In compliance with this order, and with the full authority it invests, the Board of Health of the city of Beardstown have made the required investigation and find that a nuisance exists upon your premises..consisting

....

....

and you are hereby notified to abate the said nuisance and place your premises in a good sanitary condition.

A failure to comply with this order within......days from date of notice will subject the offender to the full extent and purpose of the law governing the sanitary code.

By order of the State Board of Health.

LOCAL BOARD OF HEALTH:

Charles Opitz,
W. H. Hagener,
Dr. H. Ehrhardt. Health Officer,
T. L. Mathews, Clerk.

W. H. McCormick, Mayor.

Bloomington, McLean county:

This inspection, which was in every respect a model one, was made under the skilled supervision of Mr. Ira Merchant, C. E., who had occupied various municipal positions which admirably qualified him for the details of the work. The Mayor, Benj. F. Funk, Esq., also took a personal interest in its prosecution, and visited Springfield expressly to confer with the Secretary on certain points. Mr. Hiram Greenwood, appointed health commissioner in April, at once began "a systematic cleaning up of alleys and other places within the city where nuisances existed," and prepared the following form of notification:

HEALTH DEPARTMENT.

Date..............................188..

Notice to..............................

Violation of Sec..........Div......

of Chap........ ....

Time to comply........................

No...........................Street.

....

....

HEALTH DEPARTMENT.

OFFICE OF

HEALTH COMMISSIONER.

Bloomington, Ill.,....................188

Mr....................................

Your attention is respectfully directed to an ordinance, Sec...........Div........Chap........... which declares..........................to be a nuisance. You will have same removed from........................ without delay. An early appreciation of this notice and realization of its importance to the health of our city, will save litigation.

Respectfully,

H. GREENWOOD,
Health Commissioner.

☞This ordinance will be enforced.

In August following Mr. Greenwood wrote that he had served between 400 and 500 of these notices, and had not had a single case which compelled him to bring legal proceedings. The Tabular Statement shows a total of 4,030 houses and premises inspected and 5,738 nuisances and insanitary conditions abated and remedied after the regular inspection was begun. September 5 a reinspection resulted in the serving of 200 additional notices, and the work was continued until the advent of cold weather. The privy-vault nuisance received especial attention, and the community seems to have been thoroughly aroused to the enormity of this evil.

The duplicate Tabular Statements transmitted to the State Board of Health make a large, neatly bound volume of 170 pages, containing nearly 216,000 entries, representing the sanitary features of each individual house and premises within the city limits.

Bunker Hill, Macoupin county:

Inspector, Robert A. Hayes. Total number of inspections, 343, covering 339 houses and premises. Total number of insanitary conditions and nuisances discovered and abated, 1,152. Correspondence concerning the inspection received from the Mayor, David Morris, and his successor, S. A. Fletcher; the city clerk, J. C. Wright, and from Inspector Hayes; concerning the Sanitary Survey, from Ferd Brother, M. D. The Tabular Statements show thorough work.

Carlinville, Macoupin connty:

This inspection was made under the supervision of Dr. C. J. C. Fischer, of the local board of health, to whose tact, discretion and energy much credit is due for disarming opposition and securing the coöperation of all classes. By the 4th of June he was able to write: "No more opposition to carrying this through; almost everybody is lending a helping hand, and our city is already cleaner than it has been in twenty-five years." Inspectors, Wm. Rusher, V. C. Rodemeyer, Geo. Harrington, Albert Deibel, Frank Paul, A. P. Bettersworth, Fred Walters, Jr., Wm. Raushkolb and James Hunter. The inspections by these men were very complete and their recommendations practical. Damp cellars were made dry, and in some cases filled with clean earth, ventilation provided, wells filled up and offensive material removed from lots and yards. Total houses and premises inspected, 675. Total insanitary conditions and nuisances remedied and abated, 833.

Chester, Randolph county:

Immediately upon receipt of the circulars from the State Board of Health, the local board—composed of the Mayor, Wm. Schuchert and the Marshal, F. Cain, together with Drs. W. R. Mackenzie, John T. Pollock and N. Zillikin—prepared a sanitary circular, a copy of which was furnished to every householder. This was intended to prepare for the House-to-House Inspection, and advised every citizen to make for himself an "immediate and constant inspection of houses, cellars, yards and outbuildings, so as to prevent the accumulation of filth, garbage or masses of decomposing or organic matter. Privies should be kept free from foul smell, by a liberal use of dry earth sifted upon the contents, or by the use of a solution of copperas. They should be emptied as soon as the contents accumulate to one-third the capacity of the vault. The walls and ceiling should be thoroughly whitewashed. Privies should be so placed as to prevent their exhalations from contaminating the air of houses, or polluting the source of water supplies from wells or cisterns. Instead of the ordinary privies the pail system is recommended, as being found to combine economy, simplicity, easy management and the facility for removing contents without odor or inconvenience.

"Cisterns should be cleaned out, and should be so constructed that no foul air can can pass through or over the water they contain. Roofs and gutters supplying cisterns should be frequently inspected. Wells are the most dangerous sources of water supply and therefore we recommend that all wells be closed. Also caution as to the use of Mississippi water within the city limits."

This latter warning was proved by the inspection not to be without foundation. Inspector James F. Douglass, reporting that he found "the people using bad river water," which, with the filthy condition of the yards and privies, was causing malarial and typhoid fevers. The inspector was instructed to have all nuisances abated immediately as they came under his observation, and where persons "were rather slow in doing so the city authorities compelled them or had it done at once." Certain objectionable property was condemned on his suggestion and removed by the city. Total houses and premises inspected, 516. Total nuisances abated after inspection, 365.

Collinsville, Madison county:

Although the work was not begun very promptly in this place, the local press and some of the public-spirited citizens continued to urge its necessity with so much effect that the inspection finally resulted in a general cleaning-up; the city board of health enforced the existing ordinances, which were found to be ample, and while the citizens were required to look after their own premises, the city took care of the streets and alleys, so that by the 22d of July the Mayor, Dr. C. R. Oatman, was able to report the town in a good sanitary condition. Inspectors, J. W. Edmonson, Max Zucker and E. W. Lanham. Total houses and premises inspected, 617. Total nuisances and insanitary conditions abated, 1,551. Special attention was paid to the condition of the slaughter houses which were found to be very defective.

Galesburg, Knox county:

Preliminary work was begun in this city by the Health Commissioner, James E. Cowan, M. D., in July, 1884. The first circular of the State Board of Health was re-printed with the following note:

Galesburg, Illinois, July 23d, 1884.

In response to the above Circular, a thorough inspection of the city has been ordered. You are respectfully asked to do your part towards placing the city in as good sanitary condition as possible. A prompt compliance with all demands or suggestions made by the Sanitary Inspectors, is desired. I would suggest that in all cases where a disinfectant is needed, a solution of Copperas prepared according to the formula below, be used in liberal quantities.

Respectfully,
James E. Cowan, M. D., *Health Commissioner.*

A copy of this circular was placed in every house in the city, and immediately upon the return of mild weather in the spring of 1885, operations were actively resumed. The city furnished teams and men; "all loose garbage and decaying matter was removed, every residence was visited and thoroughly inspected," and on the 19th of June, Dr. Cowan's successor, Dr. D. W. Aldrich, reported that "the house-to-house inspection has been made, I trust, thoroughly, and the necessary measures have been taken to make it clean; and in our efforts, the cholera scare has done more than a little to aid us. I feel like saying that our sanitary condition is better than it has been before since our incorporation as a city."

Inspectors, G. H. Kingsbury, J. C. Williams, S. P. Swartwont, J. W. Eckwall, P. J. Palm, F. R. Stafford, G. W. King and D. W. Bradshaw. Total number of inspections, 2,411; of houses and premises, 2,357. Total number of insanitary conditions, nuisances, etc., abated, 4,036.

Geneseo, Henry county:

Inspectors, Monesmith and Hall. Total number of inspections, 847; of houses and premises, 843. Total number of nuisances abated and insanitary conditions remedied, 1,297. One of the principal objectionable conditions at this place was the nuisance created by the outlet of the town sewer. The number of nuisances and defective sanitary conditions disclosed affords a good illustration of the value of the house-to-house inspection. When this was first proposed it was objected to as unnecessary, the mayor, J. H. Mitchell, writing: "I have every reason to believe that our city is in good sanitary condition, we have paid more than usual attention to that this spring. We have done nothing in the house-to-house inspection yet, as our people take great pride in keeping their premises neat and clean." The inspection revealed a different state of affairs and resulted in cleaning-up many neglected and unsuspected disease-breeders.

Gillespie, Macoupin county:

Inspectors, B. P. McDaniel and Robert Brown. Total number of houses and premises inspected, 158. Total number of insanitary conditions and nuisances discovered and abated, 208. Correspondence concerning the inspection received from P. H. Pentzer, president village board of trustees, and W. M. Gross, member local board of health.

Grant Park, Kankakee county:

Dr. Herbert Wheeler, who made the inspection at this place, makes a special report upon the location of the privies which were found, as a general rule, too near the wells—in one case within three feet! Total number of houses and premises inspected, 82. Total number of insanitary conditions and nuisances abated, 167.

Greenville, Bond county:

The inspection of Greenville was made under the supervision of the local board of health, Dr. W. A. Allen, chairman—inspector's name not given. Total number of houses and premises inspected, 327. Total number of nuisances and insanitary conditions remedied, 663.

Highland, Madison county:

The following communications accompanied the Tabular Statement of House-to-House Inspection in Highland:

HIGHLAND, ILL., Aug. 3d, 1885.

TO STATE BOARD OF HEALTH, SPRINGFIELD, ILL.

GENTLEMEN: To-day we send you our report of the sanitary inspection of our city, with the remarks of the sanitary committee, etc. The board of health of the city of Highland have thoroughly examined the sanitary inspection committee's reports, and find our city to be in a very neat and healthy condition. Most nuisances that existed before the inspection have now been abated. We noticed quite a number of damp cellars reported but can only say in regard to that, that the board took no action on it with the exception of having all cellars well ventilated and whitewashed; as our city has no system of drainage we could hardly compel them to go to heavy expense for that purpose. And again in those reports we find that there is quite a number of privy vaults, (some being walled and cemented and others having no wall), being too near wells, which we have not as yet taken any action on, as some property owners refuse to make any changes, claiming their drinking water to be perfectly free from contamination, while others claim they are too poor financially to have any changes made. And again there are others who have their wells about forty-five feet from privy vaults and have no more room on lots to make a change. We therefore ask your honorable body for further instructions on these nuisances. Some have privy vault in connection with their dwelling, where vault is only 7 feet from well but is cemented; but occupants complain of terrible stench from privy, which ought to be remedied, but party refuses to do anything. Our streets and alleys are in excellent condition.

F. B. SUPPIGER, *President.*

M. D. TIBBETTS, *Secretary.*

Remarks on the Sanitary Returns.

1. The site of the City of Highland is what is generally called "rolling prairie" in this State. It is generally level and there is but little difference in the elevation of the lots. The soil is the common prairie soil; about 12 inches, more or less, of humus on yellow clay, which latter is not quite impervious to water. This description of the soil was omitted in most instances in my reports—being everywhere about the same,—for avoiding unnecessary repetitions and loss of time.

2. The cellars,—with but few exceptions,—are walled up with brick or stones,—the houses standing, therefore, on brick or rock basements,—which circumstance we mention here, as it seemed to us unnecessary to say so in every instance. The same remark applies to the contents of the cellars, which are all used for storing vegetables, fruits, provisions, etc. The rare instances where other matters are stored in them, are mentioned in the reports. At this season most of the cellars were found empty; no rotten vegetables came under our notice.

3. The distance between well and privy was on every place actually measured and noted, as this appeared us to be of importance. No water-closets used.

4. Very few cellars were found to have been whitewashed. Those which were have been noted in the reports.

5. Kitchen-sinks are an exception and therefore noted; but on many places there is a covered or open drain from near the house to take the slops and rain-water away from the house. The soil thrown out in digging the cellar was in about every instance filled up around the house to elevate the site of it.

6. Many nuisances in streets and alleys were, since the inspection, abated and corrected by city-work, gutters opened, manure and filth removed, etc.

7. In the "Recommendations" the indications for corrections were marked thus: *8.*,—by a short line under the figure,—as we found this way easier and taking less time than the other.

8. Well-water is generally hard and, therefore, not well-adapted for washing, but good for drinking and cooking. For laundry-purposes rain-water is stored in cisterns or barrels.

9. Our reports will show that the general health of our little city is remarkably good. This shows that its inhabitants are observing the rules of cleanliness and avoid everything which might produce disease. The few who were in need of it were warned and bid to correct and abate all causes of sickness on their premises.

J. BALSIGER, *Inspector.*

Highland Park, Lake county:

Inspectors, Charles C. Waugh and E. H. Martin, under the supervision of W. M. Sweetland, M. D., of the local board of health. Total number of houses and premises inspected, 295. Total number of nuisances abated and insanitary conditions remedied, 585.

Hillsboro, Montgomery county:

Inspectors, Geo. E. Warren, John J. Miller and Albert E. Fish. Total inspections, 419; total defects remedied, 511. Correspondence concerning the inspection received from the Mayor, John T. Maddox, and from Chas. A. Lindsay, secretary of the local board.

LaHarpe, Hancock county:

Inspectors, Louis Shaw and J. R. Crabill. Total number of houses and premises inspected, 240. Total number of defects remedied and nuisances abated, 634. Correspondence concerning the inspection received from the Mayor, George Coulson.

Lincoln, Logan county:

Although tolerably complete the inspection at Lincoln is reported not as thorough as is desired; but it is intended to repeat the work as early in the spring of 1886 as the weather will permit. Total number of inspections reported, 944; of insanitary conditions and nuisances discovered, 1,095. Inspector, Charles Phillips.

Mt. Vernon, Jefferson county:

After persistent effort for more than three months Dr. Plummer, the Mayor, at last succeeded in inducing the city council to take action upon the inspection, and on the 11th of August, there was issued the following

Public Notice.

In obedience to an order of the STATE BOARD OF HEALTH, having under the statutes the full force of law, the City Council of Mt. Vernon, Illinois, at its last regular session, by unanimous vote, authorized the Mayor to institute a sanitary survey of said city at the earliest practicable date, and also agreed to employ Dr. Adam C. Johnson for that purpose.

Now, therefore, notice is hereby given that on Monday next, August 17, said Johnson will begin such sanitary survey, and all persons are notified to have their premises, especially their cellars, barns, privies, chicken and hog pens, &c., thoroughly cleaned up, as the inspection will be close and universal. Every defect will be reported, and the law rigidly enforced.

HIRAM S. PLUMMER, *Mayor.*

On the 22d of August Dr. Plummer wrote: "The inspection is now progressing all right and we will soon have it completed. * * * Our city is already cleaner and healthier than it has been in the past fifteen years."

Total number of inspections, 522; of insanitary conditions and nuisances abated, 392.

Paxton, Ford county:

Inspectors, A. McElroy, Chas. H. Langford and E. Given. Total number of inspections, 466. Total number of insanitary conditions remedied and nuisances abated, 1,040. The work in this town seems to have been very thorough, and the Tabular Statements are very well made.

Perry, Pike county:

Dr. Harvey Dunn, the health officer, supervised the inspections at Perry. John E. Morton, the inspector, inspected 149 houses and premises and reported 562 defects remedied and nuisances abated.

Prairie du Rocher, Randolph county:

Dr. A. L. Brand was appointed health inspector early in April, and made eighty examinations. He found defects in the surroundings, and lack of ventilation in the houses. In some of these places were cases of malarial fever. In the lot adjoining one house was a pond of stagnant water, within the house was a case of pernicious intermittent fever. Extracts from some of the other reports were as follows: "Cellar half filled with water a great portion of the time;" "pig-pen and cow-lot very offensive—open drain carrying filth from these to front of house;" (a case of intermittent fever in the house); "cow-lot and privy in bad condition" (two cases of malarial fever); "house lot very dirty and foul" (malaria); "house leaks and is very damp."

Rushville, Schuyler county:

In July, 1884, soon after the receipt of the first circular from the State Board, the Rushville board of health—R. L. Greer and Drs. Jno. A. Harvey and J. N. Speed—published the following:

Official Sanitary Order.

The board of health of Rushville, accompanied by the town trustees, are making full investigation of the town as to cleanliness and the condition it presents for warding off or sustaining *plague* or *malady* in case of its approach, and find many privies, hog-pens, stables, ditches, back yards and well drains in a very bad condition, especially privies, back yards and drains where kitchen offal and vegetable matter have accumulated and lie in a wet, decaying and filthy condition. Those who occupy such premises already know it. Let those occupying such go to work at once and thoroughly *cleanse* and *dry* all such places: and by a free use of lime, copperas and other disinfectants thoroughly disinfect and purify all such places, and thus avoid the necessity of a personal requirement by the board of health. 'Tis not a matter of personal comfort to neighbors, but of health or disease, may be life or death, to the occupants of such premises. The State Board of Health also makes such requisition. A good policy is to be ready for any emergency.

By order of the Board of Health of Rushville, Ill.

A great deal of good work was thus accomplished during the summer, and in the following spring a systematic house-to-house inspection was begun. This was completed and the statement mailed to the State Board July 14, 1885, at which time Mr. John S. Bagby, the city clerk wrote: "We had our marshal follow up the inspector and have the places requiring attention (and they were almost legion) placed in a good sanitary condition, and our citizens have cheerfully and promptly complied with all orders, and I can safely say we are in better shape to-day to meet the cholera or other contagious disease, than at any time in my recollection."

Total number of houses and premises inspected, 400; of nuisances and insanitary conditions remedied and abated, 564. Inspector, Dr. James H. Ewing.

Sparta, Randolph county:

Dr. David S. Booth of the local board of health, and the Mayor, D. P. Barker, took an active interest in the work in Sparta. As a preliminary to the inspection the following was prepared and copies furnished to every householder:

Sanitary Circular to the Citizens of Sparta. As our most eminent sanitarians have conceded that cholera, that dread scourge, is almost certain to make its appearance in this country during the year 1885, and as the Board of Health of this State has entered upon a plan, the systematic operation of which is intended to effect such general and particular sanitary revolution in the State as will place it in the best possible condition to prevent or arrest the spread of Asiatic cholera, should that terrible disease be brought into or develop in this State, the citizens of Sparta should become aroused to the danger that threatens, and be ready and willing to act in accord with the suggestions and requirements of the State Board of Health, as also the board of health of the city of Sparta, which latter board, acting in harmony with the STATE BOARD, recommend the following sanitary improvements for the guidance of our citizens:

1. INSPECTION.—That immediate inspection be made of yards, out-buildings, cellars, dwellings and places of business, and a removal and destruction of all filth, garbage or masses of decomposing or organic matter. Dispel foul odors from privies by free use of lime, dry road dust sifted over the contents, or a solution of copperas, one pound to three gallons of water—one or all can be used. Accumulations should be removed and buried often. All vaults under privies should be disinfected and filled with dry earth, and if possible discontinued for all time. Privies should be so placed as to prevent their exhalations from contaminating the air of houses or polluting the source of water supply from wells or cisterns. Stagnant water should not be allowed on the premises.

2. WATER.—Wells and cisterns should be thoroughly cleaned, and arranged or constructed about the top so as to prevent any surface water running in. Gutters should be kept clean. Wells are not always the safest source of water supply, and it is recommended that the water of wells be tested for impurities and wells condemned where impure water exists.

3. DWELLINGS.—Good health depends largely on the condition of the dwelling. Cleanliness is indispensable; pure air and water. Open your doors and windows and let in the sunshine daily. Look well to cellars, closets and pantries; banish any dampness, foul odors or mold. If necessary, make on a fire in the grate or stove and thereby drive out the dampness and purify the air. A free use of whitewash is recommended.

4. DISINFECTANTS AND DEODORANTS.—Heat and pure air are the best of all disinfectants. When other agents are necessary, see pamphlet.

5. RECOMMENDATION.—The Board of Health respectfully recommend to the city authorities the appointment of a house-to-house inspector, and that blank forms for such inspection with necessary instructions be furnished.

6. Each family will be visited by a house-to-house inspector, and positively a thorough examination will be made of each premise and same reported to the Board of Health for their action.

7. INDIVIDUAL DUTY AND RESPONSIBILITY.—As health is the great consideration and object of all sanitary measures, it is the obvious duty of every citizen to keep their individual home and surroundings in a clean and healthful condition, for by so doing you not only help to avert an epidemic pestilence, but lessen the liability of contracting preventable maladies. We also recommend personal cleanliness, properly cooked food and regular habits. Success depends on individual effort. You must feel the responsibility you owe to each other.

BOARD OF HEALTH FOR CITY OF SPARTA.

SPARTA, ILL., June 17, 1885.

The house-to-house inspection which followed was repeated before the tabular statement was made, and the result of this re-inspection is reported by Mayor Barker as "quite satisfactory." Total number of inspections, 426; of houses and premises inspected, 383. Total number of nuisances abated and insanitary conditions remedied, 805.

Troy, Madison county:

Inspectors, Dr. F. W. Zanders, Edward Bigelow and James N. Jarvis. Total number of inspections, 157. Total number of insanitary conditions remedied and nuisances abated, 457. Correspondence concerning the work, nuisances, etc., received from Edward Bigelow, of the local board of health, and Elias Brooks.

Urbana, Champaign county:

The following letter from Mr. P. R. Leal, Sanitary Inspector of Urbana, gives a graphic picture of the work there done: "I herewith forward to you my report of the sanitary condition of the city of Urbana, Ill. I commenced in the business part of town, which, in this place, was the foulest. Spent the first few days in telling the people what I wanted done, and gave them time to clean up while I commenced on a comparatively clean ward. This put them on their mettle, and the work went on rapidly. They were further stimulated by the suggestion that the meats, fruits, provisions, groceries and dry goods were contaminated by filthy surroundings, and that the attention of customers would be drawn to this fact, which would have a tendency to damage trade. Every effort was made to get the people to render a cheerful compliance with the law, and as a consequence not a suit was brought or even a single written notice served. In making the house-to-house survey care was taken not only to point out dangerous surroundings, but to give illustrations of the serious and fatal effects of carelessness in sanitary matters. Strong efforts were made to make the survey a new departure in sanitary affairs by impressing the people with the necessity of continued effort in that direction. The women have come up to the work nobly, far more so than the men. They have worked themselves, and urged the men to do their share. I have found women to be a power in sanitary work, and the best way to secure continued effort is to give due praise where it belongs. The doctors have given their influence with good effect, and the press, notably the Champaign County Herald, has been very earnest in supporting the work. Much work was done by the people in anticipation of the survey. When the yards were ample I have advised the scattering of waste and refuse water, using it on gardens, trees, bushes, etc. The keynote of all sanitary regulations is this: When everything is in its proper place, there is no such thing as filth in the world. What is filth in one place is plant-food in the right place. Health and wealth follow cleanliness. These considerations have been presented to our citizens, and the results are very favorable."

Total number of inspections, 704; of insanitary conditions corrected and nuisances abated, 1,647.

VERY few towns have made any report of the cost of the house-to-house inspection. From such as have been received it would appear that they average slightly in excess of the relative cost in Chicago. In that city the entire cost—including salaries of inspectors, laborers, teams, disinfectants, printing and stationery—was $13,031.48 for a total of 77,103 inspections, which is an average of less than 17 cents for each inspection. At this rate the 224,360 inspections in the State at large would amount to $38,916.84. As the towns were relieved of much of the expense of printing and stationery, and their labor is, on the whole, cheaper than in the city, it is probably a safe estimate to put the total cost of the house-to-house inspection in the whole State, including Chicago, at about $50,000 for everything except the work actually done or caused to be done by the individual householder, tenant or owner.

This utterly insignificant sum, compared with the results accomplished, is a tax which no community would feel, even if borne annually; and there is every reason to believe that in many places the work will be kept up and made permanent. Where this is done the expense will not be as much as the first inspection cost.

Assuming that only half as many lives were saved from premature death in the State at large as the health commissioner of Chicago estimates were saved in that city by the sanitary work there done, then this outlay represents a saving of nearly 2,000 lives besides the sickness, loss of time, attendance, medicine, etc.

The BOARD feels abundantly rewarded for the labor it has expended in this undertaking, and justified in urging its further and continuous prosecution.

SANITARY SURVEY OF CITIES AND TOWNS.

As soon as the House-to-House Inspection was well under way, and as an important step in the Sanitary Survey of the State, a form for a Sanitary Schedule was prepared and distributed to all the more important cities and towns. This form was based upon the Schedules of Questions for the Sanitary Survey of a City or Town, originally prepared under the direction of the American Public Health Association by a committee of twenty-eight prominent sanitarians. These questions were revised and adapted to meet the requirements and conditions of this State, and embrace the following subjects:

A.—Location, Population, and Climate.
B.—Topography.
C.—Water Supply.
D.—Drainage and Sewerage.
E.—Streets, Alleys, and Public Grounds.
F.—Habitations.
G.—Gas and Lighting.
H.—Garbage and Excreta.
I. —Markets.
K.—Slaughter Houses and Abattoirs.
L.—Manufactories and Trades.
M.—Hospitals and Public Charities.
N.—Police and Prisons.
O.—Fire Establishments, etc.
P.—Cemeteries and Burials.
Q.—Public Health, Laws, Regulations, Municipal Officials.
R.—Registration and Statistics of Deaths and Diseases.
S.—Municipal Sanitary Expenses.
T.—Public Schools.

The distribution of the Schedule to 102 cities and towns was accompanied by the following circular:

ILLINOIS STATE BOARD OF HEALTH.

STATE SANITARY SURVEY.—No. VIII.

OFFICE OF THE SECRETARY, Springfield, June, 1885.

DEAR SIR:

Accompanying this are copies of a SANITARY SCHEDULE, comprising blanks for the various information pertaining to the health conditions of your city.

Will you please examine the various sets of questions, select such —if any—as you have time, opportunity and the necessary data to fill out, and hand the others to gentlemen who will complete them?

It is not likely that any one individual will be in position to fill out the entire SCHEDULE. For some subjects the necessary information may have to be obtained from more than one source. But it is hoped that you or some one whom you may designate will take charge of the matter for your city and secure the information as fully as possible, and in whatever way may be found necessary.

Three (3) copies of the SCHEDULE are furnished—one of which may be taken apart, and the various subjects distributed to those who will undertake to fill them out. As each set is completed it should be transcribed on the two complete copies, one of which is to be retained for the use of the city and the other to be forwarded to this office.

I will be pleased to answer any questions concerning the work, and to furnish any information or assistance in my power which may facilitate its accomplishment.

Your early acknowledgment of receipt, and advice as to your action, are respectfully requested. Very truly,

JOHN H. RAUCH, *Secretary.*

To......................... ....,

........................., Ill.

NOTE.—This SANITARY SCHEDULE is based upon the "Schedules of Questions for the Sanitary Survey of a City or Town," originally prepared under the direction of the American Public Health Association by a committee of twenty-eight prominent sanitarians. These schedules have been revised, amplified and adapted to meet the requirements and conditions of this State.

Appended is a list of the questions embraced in the Schedules:

A.—LOCATION, POPULATION, AND CLIMATE

OF

....

1. Name of city and county? ....
2. Latitude and longitude? ....
3. When was the city founded? ....
4. When was it incorporated?..
5. What was its population in 1860?............In 1870?............In 1880?..............
6. What is its present estimated population?..................................
7. What is its present estimated population under 5 years of age?.... ....
8. What is the estimated number of native and foreign?..........................
9. What is the estimated number of persons of European birth?. ....
10. What is the estimated number of negroes and mulattoes?.........Of Asiatics?......
11. If meteorological observations have been regularly recorded in the City, state by whom, and for how long..
12. Have they been published; if so, where?........... ....

The following information, to be furnished separately from this Schedule, is desired in the form of tables, to include the last twenty years, or so much thereof as possible, viz.: mean, maximum and minimum temperature of each month; direction and velocity of the prevailing winds in each month; amount of rain-fall; mean, maximum and minimum height of barometer for each month, (corrected to freezing point, but not sea-level,) records of relative and absolute humidity; electricity; ozone; number of clear and cloudy days.

B.—TOPOGRAPHY.

OF

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1. Is the country surrounding the city level, hilly, or low and marshy?..................

2. If there are any considerable hills, bluffs or mounds in the vicinity, state distance direction and altitude of summits above sea level.....................................

3. If there are any marshes or low moist lands in the vicinity, state their distance, direction, extent and character, and the variations as to water which such lands undergo at different seasons..

4. What is the altitude above sea-level of the bottom of the lowest valley or ravine near by? In what direction does such valley or ravine trend?..................................

5. What modifications of meteorological conditions, and what other influences upon health in the city, are apparently due to topographical features of its immediate vicinity?

6. To what extent, and in what direction is the city bordered by grass lands, forests, market gardens or farms?...

7. Is the site of the city level?..

8. Has the original conformation of the site been materially changed?..................

9. Have original water-courses been diverted, covered or modified?........................

10. What is the elevation above sea-level of the highest, lowest, and average level of the town?..

11. In what direction is the general surface slope of the city?..............................

12. Is any part of the city what is known as "made-land;" if so, how much, and in what parts of the city?..

13. What was the character of the ground before filling?......................................

14. Was it thoroughly drained before filling?..

15. To what depth and with what material was it filled?......................................

16. To what extent is the made-land built upon, and with what class of houses?.......

17. What streams of water pass through or by the city?..

18. What is the average width of each?..

19. What is the average depth of each, and what is their velocity: rapid, gentle or sluggish?..

20. Are the sides of these streams steep or gradually sloping; that is when the amount of water changes, does it cover and expose any considerable width of shore?..............

21. Is the exposed shore hard ground or mud?...

22. Is the water clean or foul? If foul what is the source of the fouling?................

23. Are the bed of the stream and its shores subject to the deposit of organic matter or of silt; if so describe the deposit?...

24. Is there in the course of these streams any shoal or flat which is at times laid bare or only slightly covered with water?...

25. To what extent are there natural or artificial falls of water, as over dams, within or near the city, and what is the height of the fall?...

26. What is the character of the stream above such water-fall; deep and rapid, or sluggish with shoals?..

27. What canal or race, if any, passes through or near an inhabited part of the city?

28. Is the water in such canal usually clear, turbid, or muddy?...........................

29. Does foul surface drainage or sewage enter any of these streams? if so, describe manner and location of such entering...

30. What bodies of water and what their locality, character and extent, within or near inhabited portions of the city?..

31. For what period of time, and at what seasons of the year, is there stagnant water in any canal, stream, pond, or other body of water within or near an inhabited part of the city?..

32. Does such stagnant water at any time emit a perceptible odor, and does it deposit organic matter or mud?..

33. Is any part of the city or its vicinity subject to overflows or saturation of soil; if so, to what degree, at what seasons, and what is the effect on health?....................

34. How does such saturation, whether from overflow or from rain, affect the height of water in wells, and to what extent?..

35. To what geological period or formation does the site and vicinity belong?..........

36. What are the surface rocks?..

37. What are the underlying starta in order of succession from above downward?.....

38. What is their relative permeability by water?..........

39. In what direction do they dip, or slope, and at what angle?..........

40. What is the character of the surface soil?..........

41. When the surface soil is disturbed, have malarious effects been observed?..........

42. Are there continuous fissures in the rock, or continuous gravel streaks in the earth, through which soil water may flow?..........

43. Are any diseases believed to be due to the soil or geological formation, or has the spread of any epidemic followed the direction of the flow of underground water? If so, specify the diseases, and state the reasons for such belief..........

Furnish, if possible, a contour map of the city and immediate vicinity, on which are indicated the altitudes and the lines of main drainage and sewerage, or of natural drainage; also any other maps, plats, etc.

C.—WATER SUPPLY

OF

....

1. From what source is the chief water supply derived, and what is the mode of distribution—by gravity, pumping works, Holly system, etc? ....

2. If from a river or stream, what towns, villages, factories or other sources of contamination, are located upon the river or stream above the point at which the water is taken?..........

3. To what extent is the immediate gatheriug ground from which the water is drained manured with night-soil or other excrement?..........

4. From what distance is the water brought? ....

5. In what form of conduit? ....

6. What is the capacity of this conduit?..........

7. To what extent and at what points is the water accumulated in settling or other reservoirs? ....

8. Is any process for filtering or purifying used beyond reservoir settling? ....

9. What is the average amount of water per diem flowing into reservoirs? What is their highest capacity for storage?..........

10. What is the average amount of water per diem thus supplied? What is the maximum and what the minimum supply during the past year? ....

11. How many gallons daily to each inhabitant; the average, the maximum, the minimum? ....

12. How much water is on an average in storage in the reservoirs, and available in case of fire..........

13. Give results of chemical analysis of the water, if possible. ....

14. Has the water supply been offensive in taste or odor, at any time; if so, at what time, and to what was the change due; and if it has been remedied, how? ....

15. To what extent is the city supplied with public fountains? With fire plugs?..........

16. To what extent is water from artesian wells used? What is the depth of such wells?..........

17. What is the character of the water?..........

18. What is the chance of organic contamination reaching the strata by which such wells are supplied? ....

19. To what extent is cistern, spring, or well water used?..........

20. In that part of the city where well water is used, what is the character of the soil?

21. What is the usual depth of wells to the bottom and to the surface of the water?....

22. Are cisterns, springs, or wells so located and constructed as to be free from cesspool and privy contamination? ....

23. If yes, state reasons for the opinion, If no, state reasons for apprehending contamination..........

24. Has the use of well-water been productive of sickness—if so, what sickness, and to what extent was it epidemic or sporadic?..........

25. Describe the character and quality of the well-water with especial reference to the presence of organic matter, and chlorides..........

26. Has any disease arisen from the use of lead pipes? ....

27. Are there any public baths; if so, how are they arranged, and to what extent are they used? Furnish a copy of their rules and regulations..........

28. Are there public drinking fountains? If so, state their capacity, and the extent to which they are used? ....

D.—Drainage and Sewerage

OF

....

1. What is the area included within the city limits?..
2. What area is closely built up, as compared with what may be called country or suburban area?..
3. What is the character and sufficiency of the surface drainage?..
4. Have any underground drains been constructed to act exclusively as such; if so, for what area?..
5. At what depth are they placed at the highest point? What rate of fall have they?
6. Are there swamps, areas of made land, or places saturated with water, near or in the town, which are undrained? If so, describe..
7. Are the cellars in any part of the town liable to an overflow of water in heavy rains, or to the intrusion of soil water?..
8. Is there any system of sewerage in the town? If so, is it part of a regular plan? If so, furnish copy of plan..
9. How many outlet sewers are there?..
10. Where do they discharge?..
11. What is their diameter at mouth?..
12. Of what material are they constructed?..
13. Are they tightly cemented?..
14. Give their shape in cross section..
15. Do they retain deposits, or are they kept fairly clean by their flow?..
16. Are they kept free from obstruction by artificial means; if so, by what means?....
17. What proportion of the area of the city is not sewered?..
18. How much of this area is built upon?..
19. What is the total length of subsidiary sewers discharging into the outlet sewers?..
20. Give the size, construction and shape of the different parts of these sewers, as indicated above for the outlet sewers..
21. Does the surface drainage pass into the sewers; if not mainly, then to what degree?..
22. If so, is their capacity sufficient in heavy storms?..
23. Is any attempt made to utilize the sewage; if so, how and with what result?.......
24. Are the sewers ventilated in any way; if so, how?..
25. Are there municipal regulations concerning the drains which connect houses with the sewers? If so, furnish a copy. Are such regulations strictly complied with?..........
26. Is there a trap required in the course of the connecting drain? If so, state its location and character..
27. Is it compulsory that all house drainage be conveyed to the sewer; if not, to what extent are other means resorted to, and what are the means?..
28. Are odors ever perceptible from the sewer openings or outlets; if so, to what extent?..

Furnish copies of reports, descriptions, etc., concerning this general subject.

E.—Streets, Alleys and Public Grounds

OF

....

1. What is the general width of the roadway of the streets?..
2. What is the general width of the sidewalks?..
3. Are the sidewalks paved, and with what material?..
4. Do the streets differ in healthfulness or comfort owing to direction? If so, specify.
5. What is the total length of streets paved?..
6. What is the material generally used?..
7. What is the total length of the streets unpaved?..
8. What is the character of the soil?..
9. Are the streets unduly wet in the spring of the year?..

10. How are the roadways constructed, and to what extent are they underdrained, and how?

11. How much wooden pavement exists?

12. How much stone pavement, cobble stones, or blocks?

13. How much asphalt or concrete pavement; how much McAdam or gravelled roadway; how much of other specified kinds?

14. What are the arrangements and regulations for cleaning and watering the streets?

15. Are the results satisfactory as to cleanliness of the streets? If not, specify defects.

16. Are shade trees planted along the streets; if so, how arranged and of what kinds?

17. Does the asphalt pavement injure the trees?

18. Does gas injure the trees?

19. Do the trees have any direct effect upon health?

20. Are they cared for by the corporation or by individual property owners?

21. Is any portion of the sidewalk or roadway laid down in grass? If so, please furnish details

22. What is the general width of the alleys?

23. What are the regulations concerning the deposit of ashes, manure, garbage, etc., in alleys?

24. Describe the arrangements for cleaning them, and if the result is not satisfactory, specify defects

25. How many public parks belong to the city?

26. State the dimensions of each

27. Are they within the city limits?

28. How many open squares within the city limits?

29. What is the area of each?

30. Are the public parks and squares kept in good condition?

31. Are public fountains placed in the parks?

32. How many public urinals in streets and in parks?

33. Are any areas for and sources of amusement provided in the parks?

34. Furnish copies of any regulations or ordinances relating to care and management of the parks

35. Is life endangered by improper arrangement and management, want of viaducts, gates, watchmen, etc., at railroad crossings within the city? If so, indicate the defects and their remedy

36. How many lives lost from this cause during the last five years?

37. What number of accidents occurred last year on street railroads?

38. What number of accidents resulted from efforts to get on or off the front platforms of street-cars?

F.—HABITATIONS

OF

....

1. How many dwelling houses are there within the city limits?

2. What proportion of these are inhabited by the owners?

3. What is the average occupancy of each dwelling? Specify, if practicable, the rate in different parts of the city?

4. How many are tenement houses—that is occupied by two or more families?

5. How many houses are overtenanted? Give details of location and effects in a special report, if possible

6. Are there any municipal regulations about over occupancy; if so, what are they?

7. Is there any regulation as to the material of which and the manner in which houses shall be constructed within the city limits; if so what is it, and is it practically enforced?

8. Have any houses been condemned as unsafe within the last year; if so, how many?

9. Have any been condemned as unfit for habitation for sanitary reasons; if so, how many and for what defects?

10. What proportion of the dwelling houses have connection with the sewers? Of these what proportion are connected by tight drains, with suitable traps?

11. Do any houses have springs, cisterns, or wells in the basements or cellars for water supply—how many?

12. Do any houses have privies in the cellars or basements—how many? ....

13. Do any have both water supply and privies in cellars or basements—how many?

14. What proportion of the dwelling houses are isolated buildings with sufficient yards or clear space all around them? ....

15. Do you know of any houses in which special arrangements are made for ventilation: if so, give particulars? ....

16. Are houses that have neither basements nor cellars, properly raised from the ground and suitably ventilated? If not, what proportion or how many are defective in these respects? ....

17. Are the cellars and basements in any part of the city damp or insufficiently drained? If so, specify ....

18. What proportion of the habitations are furnished with proper bathing facilities?..

19. Are the cellars used for storing fuel? Are ashes and other sweepings from houses deposited in cellars? ....

20. Have any diseases occurred which seem to be due to overcrowding or unfitness of dwellings or bad condition of cellars? If so, specify ....

21. Does the fuel used have any influence upon health? If so, specify ....

22. Is the ground under basement floors usually cemented? ....

23. What is the height of buildings in comparison with the width of streets? ....

24. Have any ill effects been observed from arsenic paper in sleeping and living rooms? ....

25. Have any ill effects been observed from any wall-paper or from dyed wearing apparel? ....

G.—Gas and Lighting

OF

....

1. Is the city lighted by gas? ....

2. Where are the gas works located? ....

3. Are they a nuisance to the neighborhood? ....

4. What process of purification is used? ....

5. Is it satisfactory? If not, please specify ....

6. What becomes of the refuse? ....

7. At what price is the gas furnished? ....

8. Is the quality of the gas furnished satisfactory, as to illuminating power, odor, &c.?

9. Have any injurious effects to health been observed from the gas? If so, please specify ....

10. If any analysis of the gas, or any tests of its illuminating power have been made, please give results ....

11. Are all the streets lighted, or what proportion? ....

12. Are alleys in which there are dwellings, lighted by gas? ....

13. What proportion of the dwelling houses are not lighted by gas? ....

14. What precautions are taken to ascertain the grade, and what restrictions exist on the sale, of burning fluids, kerosene, &c.? ....

15. How many accidents have occurred from explosions of these fluids within the last five years ....

17. How many accidents have occurred from explosions of gas within the last five years? ....

17. If water gas is used please state to what extent, and what ill effects, if any, have been noticed? ....

18. If the electric light is used please state to what extent, and what system or systems. Also any effects noted upon health, eyesight, etc ....

H.—Garbage and Excreta

OF

....

1. What is the law as to the removal of garbage? Furnish copy of law if possible. ...

2. How fully is the law complied with? ....

3. Is the kitchen refuse required to be removed in covered vessels? ....

4. Are the garbage, ashes, &c., removed by the corporation employés, or by private contractors..........

5. Is this removal at the expense of the corporation or of the householder?..........

6. Where is it taken to?..........

7. How often is it removed?..........

8. What is the ultimate disposition made of it?..........

9. Are the removal and ultimate disposition promptly and satisfactorily performed?..

10. Does any nuisance or probable damage to health result from infrequent removal, improper keeping before removal, improper handling during removal, improper manner or place of deposit, or neglect during any part of the process? Specify minutely..........

11. If the removal is at the cost of the corporation, what was its cost during the last fiscal year?..........

12. If at the cost of the householders, give estimated aggregate cost to them for the same period?..........

13. To what extent, if at all, is garbage and refuse destroyed by fire by the householder?..........

14. What disposition is made of dead animals?..........

15. What number of dead animals of different kinds were so disposed of during the last year..........

16. Is the manner of disposal satisfactory? If not, please specify..........

17. What is the number or proportion of houses of which the kitchen and laundry waste-water is delivered into cesspools on the premises?..........

18. Are these cesspools tight or porous, or what proportion of each?..........

19. Are they furnished with overflows; if so, to what extent and where does the overflow deliver?..........

20. To what extent, if any, is the flush tank used, and in what manner?..........

21. To what extent are absorption drains under the surface of the soil used?..........

22. What are the regulations and methods with regard to constructing and cleaning cesspools?..........

23. Are the methods in use satisfactory? If not, please specify..........

24. What proportion of houses have water-closets?..........

25. What proportion of these deliver directly to a public sewer?..........

26. What proportion to cesspools?..........

27. What proportion of the houses depend wholly or partly on privy vaults?..........

28. What proportion of the privy vaults are water-tight?..........

29. What are the regulations and methods with regard to constructing and cleaning such vaults?..........

30. What proportion of the vaults are connected with the public sewers?..........

31. Have any cases occurred of contamination of wells or cisterns by privy or cesspool drainage? if so, give particulars or references, especially where the matter has been carefully investigated..........

32. To what extent is the dry-earth system used?..........

I.—Markets and Food Supply

OF

....

1. Are the markets established by law, or custom? If by law, give a copy of the law or laws..........

2. If by custom, state the usages and regulations..........

3. How many public market places are there?..........

4. State for each the location, number of buildings, and for each building, dimensions, number of stories and height of each, material of which constructed, cost, number and size of stalls, and mode of their arrangement..........

5. In each public market-place how many meat stalls—fish stalls—butter and cheese stalls—vegetable stalls—are there?..........

6. Are the stalls rented or sold, and what is the average cost of each?..........

7. On what days and at what hours are the markets open?..........

8. What are the regulations as to cleanliness, and are they properly enforced?........

9. Are the buildings public property, and if so, are they sources of revenue to the city?

10. What is the system of inspection of markets?..........

11. If there are any private markets or grocery stores in which meats, fish, vegetables and fruits are sold, please state whether they are under any supervision, and whether such supervision is effective to prevent the sale of unwholesome articles..................

12. Give number, title, salaries and duties of municipal officers charged with inspection of food and markets..

13. What is the supply of fresh meat as to quantity, quality and variety..................

14. Has any meat or fish been condemned by the inspectors within the last year; if so, how much, and for what reason?..

15. What distance, and by what kind of conveyance are meats and vegetables brought to market?..

16. What proportion of fowls are brought and sold to consumers alive?..................

17. What is the supply of vegetables and fruits as to quantity and quality?............

18. What proportion of the supply is derived from the immediate vicinity of the city?

19. Have any fruits and vegetables been condemned by the inspector within the last year? If so, state quantities..

20. Are there any municipal regulations with regard to hucksters or peddlers, to private markets, to hawking of fruits, &c., in the streets? If so, give copies..................

21. Are fruits and vegetables allowed to be offered for sale without regard to quality?

22. Are any facilities offered to producers, as sheds, stands, &c.?..................

23. Can the producers of vegetables, &c., *i. e.*, the market gardeners, sell direct to the consumer without being subject to any tax?..

24. What proportion of them sell direct to the consumer?..................................

25. Describe the milk supply, as to sources and quality, specifying as to milk from cows fed on distillery swill, glucose refuse, &c..

26. If there have been any cases of poisoning or acute disease caused by unwholesome articles of food, or canned or tinned meats, vegetables, fruits, &c., please furnish details.

27. Are the State laws concerning the adulteration of food, drink, candies, medicines, liquors, butter, cheese, milk and vinegar—enforced? If yes, please furnish details, and references to any prosecutions under the various acts, with the results of such prosecutions..

28. To what extent is oleomargarine or any analogous substance, or any admixture thereof, sold as butter?..

K.—Slaughter Houses and Abattoirs

OF

....

1. From what part of the country are animals obtained for the city markets?.........

2. How many are annually slaughtered for city consumption? How many for packing and shipment? Give numbers of beeves, hogs, sheep..................................

3. How are they taken to the places at which they are slaughtered?..................

4. Are means secured, by legislation or otherwise, for supplying food, water, air and exercise to animals while in transit?..

5. Are animals, when sent to market, submitted to inspection before or after slaughtering?..

6. Can you give any observations as to fright or terror in animals causing changes in secretions or flesh, whereby their milk or meat is rendered unwholesome?................

7. What is the effect upon their flesh of depriving animals of food and drink for twenty-four hours, provided this be a day or two before they are killed; or, secondly, immediately before they are killed?..

8. What diseases, and what stages of disease, in animals have been observed as rendering their flesh injurious as food?..

9. What is the mode of slaughtering?..

10. What disposition is made of bodies of animals that die in transit?..................

11. Can you give any statistics of the number of animals and quantity of meat condemned yearly, and the reasons why condemned?..

12. Are the abattoirs or slaughter houses erected at public or private expense?........

13. Please furnish copies of ordinances and municipal regulations concerning the establishment of abattoirs, if any, and the business of slaughtering and packing..........

14. Is the business concentrated in large establishments, or scattered in small ones?

15. Are they within or beyond the city limits?..

16. Do the establishments drain into covered sewers or open sewers flowing through a part of the city?..

17. Are they considered as nuisances in the neighborhood? If so, for what reason?..

18. If a system of abattoirs is adopted in your city, what facilities are offered to butchers for slaughtering?........

19. How does the profit to the butcher, under the new system, compare with that under the old?........

20. What rents are paid by them?........

21. What disposition is made of the fat, tallow, blood and animal refuse?........

22. Is the animal offal and refuse fed to hogs, kept for the purpose? If so, what regulations protect the public from consequent nuisance?........

23. How does the meat of these hogs compare with those which have been corn-fed?

24. Is the "rendering" of the animal refuse done on the day in which animals are slaughtered?........

25. What method of cooling the meat is employed?........

26. Give such facts, pamphlets, papers, or references as may bear on these subjects, and also on the business of packing, canning, and shipping of dressed meats........

L.—Manufactories and Trades

OF

....

1. Are there any manufacturing establishments within the city limits, or in the suburbs, which are nuisances, such as distilleries, chemical works, tanneries, packing and slaughter houses, glue factories, bone-boiling, rendering and fertilizer establishments, etc. If so, specify........

2. Are any restrictions imposed upon such by local ordinance or regulation?........

3. Are there any which pollute the water supply; if so, how?........

4. Have any bad results followed?........

5. Are there any which produce noxious gases or vapors? If so, specify, and state results........

6. Are there any which produce disease in the workmen? If so, specify........

7. Are women employed in the manufactories? If so are they subject to any diseases due to their occupation, as from the use of sewing machines, etc.? If so, specify........

8. What are the hours for labor and meals in factories........

9. Are children employed in factories? If so, what are their hours of labor?........

10. What is the age of the youngest so employed?........

11. Does such employment affect their health? If so, specify........

12. Are the cubic space and ventilation in the rooms occupied by the work-people generally satisfactory?........

13. Have any diseases (or impaired physical condition) been observed, due to insufficient air supply to the work-people........

14. Are the arrangements for privies and water closets in these establishments satisfactory? If not, specify........

M.—Hospitals and Public Charities

OF

....

1. Please give a list of the hospitals, almshouses, infirmaries and asylums, in or near the city, specifying for each, the name, location, number of beds, and governing authority.

2. Give a list of the free dispensaries in the city, specifying as above........

3. Is the hospital accommodation sufficient for the wants of the city? If not, please specify defects........

4. What is the annual cost to the city of its system of public charities?........

5. Is this system satisfactory? If not, please specify........

6. How many physicians for the poor are employed by the city, and at what salaries?

7. If there is an ambulance system, please describe........

Of each hospital, infirmary, almshouse and asylum, a full description is desired, giving location, area of enclosure, nature of soil, drainage and full description of building. Floor plans and section of building are especially desired, and a full set of the reports and other publications.

N.—Police and Prisons

of

....

1. What is the organization of the police force..................................
2. What is the number of the police force?..
3. Do the members of the police force act as inspectors of nuisances?..........................
4. Is there a night patrol? If so, how many are on duty?..................................
5. What is the per cent. of sick days among the police force?..........................
6. How many temporary lockups and station houses are there?..........................
7. Are both sexes confined in the same institution?..........................
8. What is the average daily number of prisoners occupying each?..........................
9. What is the air space per head for such average occupancy?..........................
10. What is it for the maximum occupancy?..........................
11. What are the dimensions of the cells for single prisons?..........................
12. Are the vagrants kept separate from the prisoners?..........................
13. How is the ventilation of the police station houses effected?..........................
14. What are the privy or water-closet arrangements?..........................
15. What are the facilities, and what rules for bathing the inmates?..........................
16. Furnish any other data concerning the medical and sanitary care of prisoners—employment of a police surgeon, ambulance system, provision for care of persons found insensible from drunkenness, illness, injuries, etc. ....
17. Are there any jails, penitentiaries or houses of correction within the city limits? If so, please state what they are..........................
18. What is the average occupancy of each?..........................
19. What are the dimensions of the single cells?..........................
20. How are they heated and ventilated?..........................
21. If ground plans of these institutions can be obtained, please furnish them..........................
22. If any reports, and especially any medical reports of the institutions have been printed, please give titles, dates and place of publication, and if possible furnish copies....
23. Have any epidemics occurred among the prisoners? If so, specify..........................
24. What is the diet allowed prisoners?..........................
25. What industries and means to prevent indolence are provided?..........................
26. What is the estimated number of houses of prostitution, and of prostitutes, in the city?..........................
27. Has a license system been tried? If so, give particulars ....
28. Are these women more or less subject to *general* disease than other women? If so, specify..........................
29. How many places are there in the city at which intoxicating drinks are sold to be drank on the premises—and how many of these are beer gardens or halls?..........................
30. Give an estimate of the amount of malt liquors consumed in the city per annum?
31. Give an estimate of the amount of distilled spirits drunk per annum?..........................
32. State the number of cases brought before police magistrates or police courts for drunkenness during the year..........................
33. Give any facts or statistics relative to the relation between the consumption of alcoholic drinks and the prevalence of disease?..........................
34. Furnish copies of any municipal regulations with regard to the sale of intoxicating drinks and state to what extent these regulations are enforced?..........................

O.—Fire Establishments, Etc.,

of

....

1. How is your fire establishment organized? Give copy of the ordinance and regulations..........................
2. Is your fire establishment voluntary or paid?..........................
3. Have you a fire alarm and police telegraph? What system?..........................
4. What proportion of alarm boxes to area protected?..........................
5. Does the system thoroughly answer its purpose?..........................
6. Have you an insurance patrol for discovering fires and saving property?..........................

7. What is the number of steam fire engines?..........

8. What is the number of hand fire engines?..........

9. What is the number of hook and ladder trucks, hose carriages, &c.?..........

10. Have you any floating engines, or steamers with special fire pumps?..........

11. Where is your water supply for fire purposes obtained ? Is it abundant, and how is it distributed?..........

12. Are "fire extinguishers" in general use?..........

13. What patents, or kinds of fire extinguishers are most in favor?..........

14. What is the annual expense of your fire establishment?..........

15. What number of persons employed in your fire department?..........

16. What is the manner of berthing and subsisting the men on duty?..........

17. What per cent. of sick days among paid and disciplined firemen?..........

18. What proportion of accidents in line of duty?..........

19. What proportion of mortality in line of duty?..........

20. Have you an ambulance system in connection with your fire department for conveying wounded and sick to hospital?..........

21. Is there a medical man connected with your fire establishment?..........

22. Are his services given by contract or otherwise?..........

23. About what proportion of diseases and accidents are found among your volunteer firemen incidental to their service?..........

24. What is the general character of your volunteer firemen for discipline, efficiency, and sobriety?..........

25. What was the loss of life from fire in the past year?..........

26. What was the loss of property from fire in the past year?..........

27. What number of fires, in the past year, arose from the use of dangerous and unfit fluids for lighting purposes?..........

28. What number from carelessness, such as defective construction, smoking, matches, fireworks, &c.?..........

29. What number from spontaneous combustion of oiled waste, rags, &c.?..........

30. What number were incendiary?..........

31. What are the laws, regulations and practices concerning the storage of gunpowder, nitro-glycerine, dynamite and coal oils?..........

32. What measures are taken to insure complete inspection of illuminating oils?..........

33. What are the laws with regard to buildings, in reference to fire?..........

34. Is the State law requiring doors of public buildings—churches, school-houses, theatres, halls, hotels, etc.—to open outward, complied with?..........

P.—Cemeteries and Burial

of

....

1. Are there any cemeteries within the city limits, and if so are interments now made in them, and to what extent annually ?..........

2. How many and what cemeteries are near the city ?..........

3. Give number of graves in each; the annual interments..........

4. Is it probable that the sub-soil drainage from land containing graves contaminates springs, wells, or water courses ?..........

5. What is the average depth of the grave ?..........

6. What is the nature of the soil ?..........

7. Is the soil dry at the depth at which the body is placed ?..........

8. Are vaults used, and if so, are they of brick or stone ?..........

9. What is the rapidity of decay in such vaults ?..........

10. What is the rapidity of decay in the graves, as shown by exhumations ?..........

11. Has any nuisance or evil effect been observed from the cemeteries ? If so, specify?

12. Are any extra precautions taken with regard to the burial of persons dying of contagious diseases ? Specify..........

13. Is there a receiving vault, and if so, is it so managed that it does not become a nuisance?..........

14. Are burial permits required, and if so, furnish copy of ordinance or regulations and form of permit..........

Q.—Public Health Laws, Regulations, Sanitary Officials

of

....

1. Name of Board of Health, or municipal health organization, and date of organization..

2. Bounds in which its authority is exercised..

3. Is it a special Board of Health, or is it some other public body, acting *ex-officio* as such? If the latter, specify what public body. ....

4. If the Board is a special body, by whom are the members selected, and on what recommendations?..

5. Number of members of Board—term of office—amount of salary........................

6. What proportion of the Board are physicians?..

7. Has the Board an executive health officer? If so, is he a physician?...............

8. Is the chief health officer selected by or from the Board, or how is he appointed?.

9. What number of assistant health officers, sanitary inspectors or sanitary policemen has the Board, and how many of these are physicians?...................................

10. Have any or all the assistants police powers?...

11. Do they make inspections unless when there has been complaint?. ....

12. How often does the Board meet?..

13. Are the powers of the Board specifically defined or limited by law? If so, cite the law..

14. Has the Board authority independent of city councils and police to make and enforce ordinances at any time, or only in time of declared epidemic? ....

15. Has the Board authority to abate, or only authority to define nuisances?............

16. To what extent does the Board take cognizance of defective house draining?......

17. Of defective sewerage?..

18. Of possible contamination of water supply, public or private?........................

19. Of the condition of cesspools and privy vaults?..

20. Of the removal of garbage and cleansing of private premises?.......................

21. Of the condition of streets as to cleanliness?..

22. Of methods of burial?...

23. Of the ultimate disposal of night soil and organic waste?...............................

24. In what contagious diseases are the patients isolated, and how thoroughly is such precaution enforced?...

25. Has the Board power to remove persons sick with contagious diseases to special hospital, and if so, does it always do it?..

26. What are the requirements respecting vaccination?......................................

27. What other measures are taken by the Board to restrict contagious and infectious diseases? ....

28. What vital statistics does the Board register?..

29. Does the mortuary report show street, block, No. of house?..........................

30. How do the births, marriages, and deaths, respectively, become matters of record?

31. How often, and to whom, does the Board report causes of mortality and records of death?..

32. In what form is the report published?..

33. With how many similar Boards does your Board of Health exchange its annual or other reports?..

34. In what other manner does your Board contribute to or receive aid from the labors of sanitarians outside of your own Board?...

Please furnish copies of all existing laws, ordinances, rules and regulations pertaining to the public health in your city or town, and of the reports and other publications of the health organization, or Board of Health, and of volunteer associations which have to do with sanitary matters. Also, the full name and address, with official title of the executive health officer or secretary of the Board.

R.—REGISTRATION AND STATISTICS OF DEATH AND OF DISEASE

OF

....

1. Do burials occur without record of death, and permission granted by health authorities? If so, specify..

2. Is a local system of registration of the *causes* of death in force? If so, furnish a copy of the law and of regulations relating to it ....

3. Are these laws and regulations complied with?..

4. Have statistics of mortality thus obtained been published? If so, for what periods, where, and in what form?..

5. Send latest published annual and other mortality statistics..

6. Cases of what contagious and other diseases are reported to the local Board of Health..

7. How much is recorded by the Board concerning each case of disease? ....

8. What is the relative ratio of crime and ratio of disease and death in different wards or sections of the city?..

9. At what periods and with what mortality have the following diseases been epidemic in the city, viz:

a. Cholera..
b. Yellow fever..
c. Small-pox..
d. Scarlatina..
e. Diphtheria..
f. Cerebro-spinal fever..
g. Typhoid fever..

10. During the last ten years, what has been the mortality from the following named diseases, stated by months. *If the data are not attainable for the entire period, furnish for as many years as possible.*

A.—Malarial fever..
B.—Typhoid fever..
C.—Cerebro-spinal fever..
D.—Erysipelas..
E.—Dysentery ....
F.—Diarrhea..
G.—Scarletina..
H.—Diphtheria ....
I.—Croup ....
K.—Measles ....
L.—Whooping cough..
M.—Pneumonia..
F.—Pleurisy..
O.—Phthisis..
P.—All other diseases of the lungs..
Q.—Diseases of the heart..
R.—Diseases of the urinary organs..
S.—Apoplexy..
T.—Tetanus..
U.—Hydrophobia..
V.—Puerperal diseases..
W.—Trichina..

11. State for the same period, by months, the number of deaths of children under one year of age..

From one to five..
From five to fifteen..

12. State for the same period the number of still birth, causes of still births, (including under the head of still births, abortions at all periods of utero-gestation.) ....

13. State for the same period, by months, the number of births..

14. The number of inhabitants aged under one year..

15. The number of inhabitants aged one to five years..

16. The number of inhabitants aged five to fifteen years..........

17. What diseases are less prevalent than formerly? ....

18. What diseases are more prevalent than formerly? ....

19. Do immigrants from abroad suffer from the climate? And how..........

20. Do immigrants from other parts of the country suffer from the climate? And how?

21. What relationship exists between density of population and death ratio, in different sections of the city or town?..........

S.—Municipal Sanitary Expenses

OF

....

1. What was the total amount of money appropriated by the city for sanitary purposes for the last fiscal year, specifying when such year ended?..........

2. What amounts were appropriated or expended by the city or by individuals during the year for each of the following items, viz? ....

(*a*) For deep drainage:
Appropriated ....
Expended by the city ....
Estimated expenditures by individuals..........

(*b*) For sewerage:
Appropriated..........
Expended by the city..........
Estimated expenditures by individuals..........

(*c*) For paving, setting out trees, and repair of streets:
Appropriated ....
Expended by the city..........
Estimated expenditures by individuals..........

(*d*) For street cleaning:
Appropriated ....
Expended by the city..........
Estimated expenditures by individuals..........

(*e*) For removal of ashes and garbage:
Appropriated..........
Expended by the city..........
Estimated expenditures by individuals..........

(*f*) For construction and care of public markets:
Appropriated..........
Expended by the city..........

(*g*) For construction and care of public baths:
Appropriated ....
Expended by the city..........

(*h*) For construction and care of public parks:
Appropriated..........
Expended by the city..........

(*i*) For public drinking fountains:
Appropriated ....
Expended by the city..........

(*k*) For public urinals:
Appropriated ....
Expended by the city..........

(*l*) For expenses of board of health, health officers, etc.:
Appropriated ....
Expended by the city..........

(*m*) For quarantine purposes ....

(*n*) For erection or repairs of public buildings..........

(*o*) What were the total municipal expenses during the year?..........

T.—Public Schools

OF

....

The general data indicated on this and the next two pages pertain to the school system. specific details of individual school buildings, should be furnished on the succeeding pages, of which a sufficient number of copies will be provided to afford sets for each school.

1. What is the total number of public scholars registered, and what the number in average attendance?

2. How many schools are there, and how many of each grade?

3. Give a programme of each school day showing the division of time for the several studies, recitations, recesses and intermissions?

4. How long are all the pupils under eight years old confined—1st. In the room? 2d. To the seat without change?

5. Is your experience in favor of two sessions a day with one long intermission, or only one session with recess?

6. Do the classes stand or sit during recitation?

7. If any lessons are studied outside of the school hours, state the subjects so studied, the average time required for the study of each, and the time of day usually devoted thereto

8. Give the actual length of time devoted each day to out-door exercise and recreation, the number of holidays or half holidays in each week, the time of year at which vacations occur, and the number of days in each vacation

9. Is exercise in the open air compulsory?

10. If competition is a feature in the system of instruction, state fully to what extent it governs the award of prizes, and whether different classes or both sexes may compete for the prize. In this connection, state also, whether the sexes study and recite together or not

11. What methods of correction or punishment are used?

12, What are the conditions of admission to the schools with reference to vaccinal protection?

13. When were they first instituted, and how thoroughly are they enforced?

14. What number of cases of small-pox have occurred among the scholars since vaccinal protection was made a condition of admission? What number before? Furnish full details

15. Furnish the same data as to teachers

16. What are the regulations concerning the attendance of scholars from families in which contagious or infectious diseases are prevailing, and how are they enforced?

17. What per cent. of absence of pupils is due to sickness, as shown by the "excuses" furnished by parents?

18. If there are any statistics respecting the illnesses and deaths of teachers and pupils, please furnish copies

19. Please state the results of your observation, experiments and records respecting the prevalence of the following named diseases, and of any others of like character, and of the effect of the school-room furniture and building in promoting or modifying them.

a. Abnormities and diseases of the eye, (short sight, color blindness, &c.)
b. Diseases resulting from cerebral congestion, (headache, epistaxis, goitre, &c.)
c. Diseases of the spine, (scoliosis, &c.)
d. Diseases of the respiratory organs, (consumption, scrofula, &c.)
e. Diseases of the digestive organs, (dyspepsia, &c.)
f. Diseases of the genito-urinary organs, (especially females.)
g. Contagious and epidemic diseases
h. Wounds, injuries, &c

20. Give your experience as to the effect of large schools on the propagation of disease, and as to the advisability, in a sanitary point of view, of very large school buildings of several (3 or more) stories in height

21. State the frequency of heart disease among anæmic and debilitated pupils who occupy the upper floor of school buildings, and compare with the frequency among such pupils occupying the first and second stories only

22. State facts respecting the frequency of short-sight among the pupils of the several ages and grades, and as to effect of defective light and improperly constructed desks and seats, on this disease, and on the production of spinal curvature, &c

23. Give your observations as to the safety of competition between pupils of both sexes; also, as to the advisability of identical school hours, sessions and lessons for both sexes

A copy of all regulations and statistics should accompany each report. If statistics of the age, height and weight of the pupils in each school or class are obtainable, they are also important.

* DATA CONCERNING THE..
Give name or number of the school as known by the School Board.

in..
Name of city or town.

1. Location and character of surroundings; altitude and area of site; nature of soil; character of drainage; material of building; date of erection; cost; number of stories; number of school rooms and capacity of each..

2. How is the building heated?..

3. What is the mean temperature of the rooms when the school is opened, and half an hour before closing, in the cold season?..

4. What is the mean external temperature for the same hours?..

5. Is any sickness traceable to variations or extremes of temperature?..

6. How much fuel is required annually to heat the building?..

7. How are the school rooms ventilated in winter?..

8. How are the school rooms ventilated in summer?..

9. Is the ventilation satisfactory?..

10. Give analysis of air during school hours, if possible?..

11. Describe the water-closet or privy arrangements, and if not satisfactory, specify defects..

12. †Is the basement used for water-closets, earth-closets, for storing fuel, or for what purposes?..

13. Is the basement ventilated separately from the rest of the building?..

14. What is the water-supply, and is it abundant?..

15. Please send results of latest analysis. If not analyzed, please state your opinion of its quality..

16. Are the school rooms sufficiently light?..

17. What is the number of square feet of surface through which light passes into each room by windows?..

18. Distance of pupils at recitations from the black-board, maps, or charts, on which they are expected to read letters or figures?..

19. Are there opportunities for pupils to exercise, sheltered from the cold, heat or wet, and without exposure to air contaminated by privy or water-closet?..

20. Are there opportunities for drying clothes when wet coming to school?..

21. Describe the playgrounds, give the area thereof, and describe the gymnastic and calisthenic apparatus, if any used..

22. What measures are taken for the care of the grounds, the flushing or other cleaning of sewers, the removal of excreta, &c.?..

23. What patterns of desks and seats are used in the school?..

24. Are they satisfactory?..

Give plan of each floor on the diagram blank on next page.

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* On the back of this sheet is a spaced blank for a diagram of the school lot and premises, with the following instructions:

Indicate below the outline of the school lot and buildings. Give names of streets, and, in the approximate localities, write the names of any features of sanitary interest in the immediate neighborhood, as, for example, church, dwelling, stable, privy, etc. The height of neighboring buildings is important as indicating to what extent the light and ventilation of the school building are affected. The spaces may represent any given area, but such area should be specified at foot of the diagram. Strike out the unnecessary points of the compass signifying which way the building fronts.

† On the back of this sheet is a spaced blank for floor plans of the school building, on which are to be indicated height of story, location of windows, doors, heating apparatus, number and position of scholars' desks, position of teacher's desk, blackboards, etc.

At the close of the year the reports of completed Sanitary Surveys had been received from 20 of the 102 cities and towns to which the Schedules of Questions had been furnished, and the Board was advised of a number of other places in which the Survey had been begun. The report of one of the cities was subsequently withdrawn for perfection—the house-to-house inspection of the place, and the information thereby gained, having made it possible to materially enhance its value by the addition of many details.

The reports of the remaining 19 are given in the following pages:

Sanitary Survey of the Town of Pullman:

Location, Population and Climate.—Pullman is situated in Cook county, on the west shore of Calumet lake, thirteen miles south of Chicago court house, four miles west of the Indiana state line, Dearborn Observatory, ten miles north, is in latitude 41° 50′ 1″, longitude 10° 33′ 40.8″ (Wash.) Ground was first broken for the founding of the town May 26, 1880. Not incorporated; still constitutes a portion of the village of Hyde Park.

July 28, 1885, the population was 8,603, showing a gain of 90 since date of last previous enumeration, September 30, 1884. The following tabular statement exhibits the growth of Pullman in population:

TABLE OF TEN ENUMERATIONS:

Dates of taking the census.	Families and households.	Number of men.	Number of women.	Number of children.	Total population
Jan. 1, 1881	1 Family	1	2	1	4
Mar. 1, 1881	8 Families	31	14	12	57
June 1, 1881	102 "	357	119	178	654
Feb. 1, 1882	321 Households	1,168	445	471	2,084
Mar. 8, 1883	705 "	1,956	984	1,572	4.512
Aug. 15, 1883	910 "	2,878	1,039	1,906	5,823
Nov. 20, 1883	1,048 "	3,128	1,388	2,169	6,685
Sept. 4, 1884	1,295 "	3,817	1,773	2,613	8,203
Sept 30, 1884	1,361 "	3,945	1,845	2,723	8,513
July 28, 1885	1,381 "	3,752	1,945	2,906	8,603

The population is composite, American-born residents making nearly one-half the entire number. Persons born in Germany rank next in number, while natives of Sweden are third. The nativity of the present population is as follows:

Born in the United States	4,013
" Germany	1,088
" Sweden	1,024
" Ireland	563
" Canada	557
" England	406
" Holland	271
" Norway	267
" Scotland	144
" Denmark	75
" Switzerland	63
" France	36
" Italy	33
" South America	6
" Greece, Poland, Bohemia and Belgium	57
Total	8,603

In September, 1884, the households in Pullman averaged $6\frac{3}{10}$ persons, while they now average $6\frac{2}{10}$, and will in time drop to the country's average [$5\frac{4}{100}$, by the U. S. census of 1880.] The number of women, too, will continue to increase. There are now 100 more women in Pullman than there were in September, 1884, while the number of men has decreased 200. There are also nearly 200 more children reported than in last September. There is now an average of $2\frac{1}{10}$ children for each household in the city.

The meteorological observations of the Dearborn observatory, 10 miles north, and of the United States Signal Service in Chicago, 13 miles north, would be substantially correct for Pullman. [For these data reference may be made to the Annual Reports of the ILLINOIS STATE BOARD OF HEALTH—the years 1871 to 1881, inclusive, in the Fourth Annual, pp. 186, 188, 190, 192, 195 and 197; the year 1882, in the Fifth Annual, pp. 601–2; the years 1883–1884, in the Seventh Annual, pp. 421 and 424; and the year 1885 in the present volume, page 79.]

TOPOGRAPHY.—The country surrounding the city is generally level. The Illinois Central railway depot, at the centre of the west side of the city, is ten feet above level of Lake Michigan, which is 578 feet above sea level. The ground rises gradually to the north and west till it reaches an elevation of 25 feet above Lake Michigan. Half a mile west of the city is an old lake beach, which is 20 feet higher than the depot grounds. Two miles farther west is another lake beach 60 feet higher than the first. The land here and in this neighborhood is a blue drift, or bowlder drift clay, about 90 feet deep, resting upon lime rock. The vegetable mold is rarely more than six inches thick upon the subsoil of clay. There are no marshy lands here, or lands of a shaky, rotting-bog or swale variety. The topography being a general level, with little timber, offers no obstruction to lake or land breezes, securing thereby continuous changes of air in the city. The wide streets, too, aid in this changing of air. The city is surrounded by grass lands, market gardens and good farms. The level site has required but little work to grade the streets and the blocks on which houses stand. The natural conformation is changed only a little.

There are no water courses within the city limits. The Calumet river is three miles south of Pullman. With very little variation of surface level, there is a slight and gradual slope from northwest to southeast. There is no "made land" to be used for building purposes. An artificial island of five acres in extent has been made by dredging clay from the bottom of Lake Calumet. It is used by an athletic club, having a race-course and boat houses and grand stands. It is just east of the central portion of the city and close to the west shore of Lake Calumet.

The Calumet river, three miles south of Pullman, is from 200 to 500 feet wide, a sluggish stream, navigable for 18 miles from its mouth with a 12-foot draft. Its banks are well defined and the only exposure is a perpendicular one, sometimes amounting to 4 or 5 feet in a year, and caused by the rise and fall of the level of Lake Michigan. The stream is fouled by drainage of stables at Riverdale—containing some 2,000 head of cattle at times—and by distillery refuse. Meadow land near the mouth of the Calumet is occasionally overflowed, but more by the waters of the lake than by the discharge from the stream.

The city and vicinity are free from stagnant water. Under six inches of alluvium there is found 90 feet of bowlder drift blue clay, then limestone possibly 1,000 feet. The clay is a drift deposit probably left here by glaciers at the close of the glacial epoch and probably somewhat modified subsequently by heavy water currents. Water permeates this clay with difficulty, but the underlying limestone is doubtless cavernous in places and has subterranean streams. This rock crops out on the surface about 3 miles northeast of Pullman, but it is generally disposed in horizontal layers with very little if any dip. The surface soil is ordinary black vegetable mold mixed with clay and atmospheric dust.

No malarious effects followed the disturbance of the surface soil for building owing to the thorough system of drainage which preceded. There are occasional sand pockets in the clay. At the bottom of the clay the bowlders are abundant, the last ten feet being largely gravel and bowlders resting on the underlying rock. The water percolating through these bowlders and gravel is sweet and pure. For the reason already given there have been no diseases believed to be due to the soil or geological formation, nor has the spread of any epidemic followed the direction of the flow of underground water.

Water Supply—The water supply of Pullman is derived from Lake Michigan, from which it is brought through an iron conduit, 30 inches in diameter, a distance of six miles, the conduit having a capacity for 60,000 people. About 100 gallons a day per capita is used in dwellings—shops, etc., separate. There is a storage tank at the top of a 195 feet water tower. This tank, which holds 500,000 gallons, is kept full for use in case of a fire. Chemical analysis shows the water to be the same as that supplied by the Chicago water works at its best. (See Chicago water reports.) In case of heavy winds the water is slightly clouded with fine lake sand. It is nearly always bright and clear. During the latter half of June, 1885, it was, like the Chicago water, somewhat offensive, appearing to have a fishy smell. No cause is known for this; possibly it was caused by the construction of the new Hyde Park water tunnel.

There are 150 hydrants from which water can be taken in case of fire. Arrangements have been made for several public fountains. There are no artesian wells in Pullman. Before getting Lake Michigan water twenty wells were sunk down to the lime rock underlying the city. No cistern, spring or well water is used. No disease has yet been reported as arising from the use of lead pipes. There are no public baths. No public drinking fountains other than at depot and car shops.

Drainage and Sewerage.—The area of Pullman is about 500 acres, 150 of which is closely built up. The drainage is perfect. The rainwater goes directly, by gravity, into Lake Calumet. Underground drains have been constructed for the entire area of the city. They are from 7 to 8 feet deep, and have a minimum fall of 6-10th of one inch to 100 feet. No swamps undrained near the town. No cellars are liable to overflow, the sewers having a capacity for carrying water that would cover the drained land to the depth of $1\frac{1}{4}$ inches, and taking it at once. It has a perfect system of sewerage known to engineers as the "separate" plan. The sewers for rainwater are of brick, from 3 to 6 feet in diameter, and discharge directly into Lake Calumet. The sewers for sewage proper are of vitrified pipe, 6 to 18 inches in diameter, and the sewage passing through them is distributed over a farm of 140 acres three miles from the town. They are all built in the best manner known to engineers. Their shape is round in all cases. Are kept clean by the flow and by ample provisions for flushing. They are rodded when obstructed. Are ventilated by perforated man-hole covers. Perfect drainage is connected with each house as built. S traps are used outside of the house. The water-closets are trapped, always having an abundance of water in them. All the buildings of Pullman belonging to one corporation, they are all perfectly drained and wastes are promptly conveyed to the sewer. No odors are ever perceptible from the sewer openings or outlets. Sewage is at once pumped out of town.

A further description of the drainage of Pullman, prepared by Mr. Duane Doty, is here appended:

Sanitary engineers agree that good drainage is of greater importance than anything else in ensuring health. Good water is by no means of equal importance. Drainage is only one phase of cleanliness. The rapid growth of cities (fourteen millions of the population of our country now residing in cities and villages) has, in a most earnest way, called the attention of builders, sanitary officers, and local and State legislative bodies to this subject. The average city or village is simply a hap-hazard conglomeration of odds and ends in the way of buildings, whose inartistic forms, defective construction, inconvenient arrangements and disorderly relations would not be rendered much worse by an earthquake. In most towns, at the outset, drainage is not thought of, but after a lapse of time, when the soil has become charged with the accumulated filth of years, attempts at sewerage are made, but the work is oftener than otherwise unsatisfactorily done. The city of Pullman is built scientifically in every part, and is exceptional in this respect. Here the drainage preceded the population, and the soil is now as free from organic contamination as when it formed a portion of the open prairie. Every house, too, has been constructed from approved plans, and under the supervision of competent builders and enginess.

The city is situated upon the west shore of Lake Calumet, which is a shallow body of water three and a half miles long by a mile and a half in width. This lake drains into Lake Michigan through the Calumet river, Lake Michigan being not more than three miles distant. The site of that portion of the city, now fully covered with buildings, is from eight to fourteen feet above the level of Lake Calumet. The soil is a drift deposit of tough blue clay ninety feet in depth, resting upon lime rock. The land gradually rises to the north and west to an elevation of twenty-five feet above Lake Calumet, this lake being usually from three to five inches higher than Lake Michigan. There is no land of a marshy character in this neighborhood. The bottom of Lake Calumet is of hard blue clay, from which the best cream-colored brick are made. It was deemed unwise to permit any sewage to flow into Lake Calumet, so the system of drainage adopted is what is known as the *separate* one.

The atmospheric water goes from roofs and streets through one system of pipes and sewers directly into Lake Calumet. Brick mains from three to six feet in diameter are built in alternate streets running east and west, the intermediate streets being summits from which the surface water flows into the main sewers. The fall is sufficient to secure good cellars for all the dwellings in the city, the drain pipes leading from cellars being at least eighteen inches below the cellar bottoms. A two-foot cobble-stone gutter borders either side of every street, leading at short intervals of 150 feet into catch-basins, these basins connecting either with the lateral or the main sewers. This system of surface drainage is calculated to carry easily an amount of water that would cover to the depth of one and one-half inches the entire area drained. For the drainage from lots six-inch pipe is used, while for block drainage and for laterals, pipe varying from nine to eighteen inches in diameter is used. The parks and play grounds are all thoroughly drained. The amount of vitrified pipe already laid in the town is as follows:

Of 18-inch pipe	4,500 feet
Of 15-inch pipe	6,500 feet
Of 12-inch pipe	6,600 feet
Of 9-inch pipe	16,000 feet

There are also several miles of six-inch pipe. In addition to the piping of diameters from six to eighteen inches, the necessary quantity of four-inch tile has been used to carry water from cellars and down-spouts to the laterals from brick houses for 1,476 families. The lands surrounding the town are well drained by ditches.

In every other street running east and west, and lying between the streets having brick mains for surface drainage, there are sewers made with vitrified pipe which lead to a large reservoir under the water tower, entering it at sixteen feet below the surface of the ground. These glazed pipe sewers are from six to eighteen inches in diameter and constitute another and separate system of drains which carry the sewage proper, by gravity, from houses to the reservoir. This reservoir has a capacity of 300,000 gallons, and the sewage is pumped from it as fast as received and before sufficient time elapses for fermentation to take place. The ventilation of this reservoir is perfect. Flues run from it to the top of the tower above it, and a flue leads from it to the large chimney which takes off the smoke from the fires under the boilers of the Corliss engine. The sewage is sent to the model farm through a twenty-inch iron main, and, at the farm end of this pipe, it goes into a receiving tank, which contains a screen placed in a vertical position, through which substances that are more than half an inch in diameter cannot pass. The pressure of the sewage upon the tile piping in the farm seldom, if ever, exceeds ten pounds to the square inch, provision being made at the pumping station and at the farm to relieve the pipes from greater pressure. We are now pumping about 100 gallons of sewage a day for each person of the population. This seems a large amount, but when it is remembered that every tenement is provided with the best of closets and sinks, and that the water taps are all inside the houses, it will be seen that a large amount of sewage per capita is unavoidable.

About 140 acres of land have been thoroughly underdrained and piped for the reception of sewage with which these acres are irrigated by means of hose. Hydrants are placed at proper intervals so that the distribution can be easily effected. There is nothing offensive about this work, nor can one detect noxious odors at the pumping station or at the farm. All organic matter in the sewage is at once taken up by the soil and the growing vegetation, and the water, making from 100 to 500 parts of the sewage, runs off through the underdrains to ditches, which carry the filtered waters into Lake Calumet. Where the sewage water leaves the drains it is as clear and sparkling as spring water, and laborers often drink it. One acre of land will take care of the sewage made by 100 persons. Our population is now only 8,500, but there is land enough already prepared to receive the sewage made by a population of 15,000. The pumps now at the pumping station can handle 5,000,000 of gallons a day if necessary, and the main to the farm could carry the sewage for a population of 50,000. These pumps are now required to handle about a million gallons a day, coming from shops, homes, and public buildings. All waste products at Pullman are carefully utilized, being transformed by vital chemistry into luxuriant vegetable forms.

Any further details relating to pipes and the manner in which they are laid here, and to engines, pumps and valves, could be of little interest to any one except a professional engineer. Every provision is made for flushing and cleaning the sewers and for keeping them in perfect order. There is no town in the world so well and effectively drained as Pullman, and the phenomenal health of its population is one of the results. Although supplied with the purest water from Lake Michigan, we do not look upon it as a benefit equal to that of our excellent drainage. Cases of zymotic diseases here are rare, and the death-rate of the city has been only 7 per year for every 1,000 of population. The average death-rate of most American cities is three times that for Pullman, and the death-rate for the whole world is placed at 32. Ample provision is made for extending this system of drainage to meet the wants of 100,000 people.

Streets, Alleys and Public Grounds.—The average width of the streets is 66 feet; the main east and west boulevard being 100 feet. Average width of sidewalks, 8 feet, constructed of gravel and plank. No difference in health noted owing to direction. Paved streets include about seven miles of stone roadway. The soil is a blue drift or bowlder clay. Streets are never unduly wet; water runs off at once. The average street has first an 8-foot walk, then an 8-foot grass plat, then a 2-foot cobble stone gutter, and a paved centre of 30 feet. There are no wooden, asphalt or concrete pavements. They are swept and cleaned every day, and sprinkled when dusty, with perfectly satisfactory results. No cleaner streets are to be found in the world. Elm, aspen, maple and ash shade trees border both sides of every street; 30,000 of them have been planted. There is no evidence of injury to trees from gas. The trees have no other effect upon health than that of shade and the beneficial effect of vegetation in presence of animal organisms. The Pullman Company care for all trees.

The alleys are 14 and 16 feet wide, and are in every block. No deposit of ashes, garbage, manure, etc., is allowed in alleys, but such refuse is placed in receptacles and carted away.

The city itself is a park, but there are a half-dozen open spaces devoted to park purposes, containing about 25 acres, all within the city limits. These are kept in perfect condition. Arrangements have been made for public fountains. There are public urinals in the hotel and arcade. About seventeen acres are provided as amusement grounds.

No watchman is kept at the boulevard crossing of the Illinois Central tracks, but it is a long time since an accident occurred there. No record has been kept of same.

In addition to the foregoing—which are the specific answers to questions in Schedule E—the following statement is furnished: The ordinary street in Pullman has the regulation width of sixty-six feet. When finished there is a sidewalk line on either side eight feet in width, then plats of grass eight feet wide, on which shade trees are planted, and then cobble stone gutters two feet in width. Thirty feet of the central portion of the street is paved for a roadway. At the outside of the sidewalk line, or what is termed the block line, there is usually a terrace from one to three feet higher than the street center and from eighteen to twenty feet wide, which makes the distance between opposite house lines a little more than one hundred feet. The sidewalk has a lateral pitch of two inches, the side nearest the roadway being two inches lower than the side on the block line. The long grass plats, too, have a further slope of two inches from the sidewalk to the gutter line. The gutters are usually about three inches deep, with summits so placed as to lead surface water to the catch basins, which are placed in the center of gutters at intervals of 165 feet. The pavement is crowning, the street center being as high as the sidewalk line nearest the building line and sloping each way to the gutters. There are six miles of paved streets, and two kinds of pavement or McAdam have been used. The first kind consists of nine inches of furnace slag spread over the street, and this slag covered with four inches of Joliet gravel. The second kind consists of a similar substratum of slag or broken stone, with a top dressing of four inches of crushed limestone. The top dressing in both cases is well rolled with heavy rollers, and, with moisture and use, becomes a sort of artificial stone. The furnace slag used is a porous vitreous compound which readily absorbs water and has a tendency to keep the surface of a street dry. The material known as Joliet gravel is composed almost wholly of limestone pebbles. The writer's experience and observation here and elsewhere leads him to prefer the crushed limestone as a top-dressing for streets. This form of dressing wears to an even surface and requires little in the way of repairs. The Joliet gravel wears to a rougher surface and in wet weather is often covered with a thin coating of yellow soapy mud. Each form of Macadam has its earnest advocates. It is merely the writer's individual opinion that the crushed limestone is in every way preferable to the gravel, making a smoother roadway and one equally durable. The dust argument against the crushed stone applies with equal force against the gravel, as the dust in both cases is merely pulverized limestone.

HABITATIONS.—There are 1,510 dwelling houses within the city limits; 1, 50 of brick and 60 frame; all owned by the Pullman Company. The average occupancy of each dwelling is six, being quite uniform throughout the city. There are tenement houses for 302 families; other buildings have one family on first and one on second floor; none are over-tenanted. All are thoroughly drained. There are no privies in cellars or basements. The better class of houses have laundries in the basements. Houses are generally built in blocks; a dozen better class houses stand alone. All of the best dwellings and public buildings are heated by steam and have good ventilating flues. All houses in the city have good and well-ventilated cellars, well drained and very dry. Ten per cent. of all the habitations have proper bathing facilities. Cellars are sometimes used for storing coal and wood, but no ashes are deposited therein. No knowledge of any diseases attributable to overcrowding or unfitness of dwellings or bad condition of cellars. Fuel used has no perceptible influence upon health. All cellars or basement floors are of hard concrete. Buildings are two and three stories high. No ill effects have been observed from arsenic-paper in sleeping and living rooms; but little paper used. No ill effects observed from dyed wearing apparel.

Appended are the comments upon the buildings of Pullman by the Commissioners of State Bureaus of Labor Statistics, who, in September, 1884, made a full and exhaustive investigation of the economic, sanitary, industrial, moral and social conditions of the city: With the scientific drainage and sewage system, in the construction of which nearly one million dollars ($1,000,000) were expended underneath the ground before anything appeared on its surface, came the erection of the works and the dwellings of the town. It is sufficient to say that the same care exercised in guarding the future health of the place has been bestowed in the erection of works and dwellings.

In the center stands the water tower which takes a supply of water from Lake Michigan and distributes it through the town. Underneath this immense tower is the reservoir into which flows the sub-sewage of the place as described. Around the tower are located the principal works; to the south and north of the works, chiefly to the south, are the dwellings. The appearance from the railroad as one approaches from Chicago is effective. The neat station; the water tower and the works in front: the park and artificial lakes intervening; to the right a picturesque hotel backed by pretty dwellings; the arcade, containing stores, library, theatre, offices, etc.; still further to the right, and beyond, a church which fits into the landscape with artistic effect. The laying out of the whole town has been under the guidance of skilled architects aided by civil engineers and landscape gardeners. The dwellings present a great variety of architecture, yet give harmonious effects. They are not built like the tenement houses of ordinary manufacturing towns where sameness kills beauty and makes the surroundings tame, but a successful effort has been made to give diversity to architectural design.

The streets are wide, well built, and wherever possible parked. The lawns are kept in order by the Company; the shade trees are cared for, and all the police work is done under competent supervision.

Every care has been taken to secure convenience inside as well as outside the dwellings. The cheapest tenement is supplied with gas and water and garbage outlets. The housekeeper throws the garbage into a specified receptacle and has no more care of it. The testimony of every woman we met was that housekeeping was rendered far more easy in Pullman than in any other place. In fact the women were in love with the place; its purity of air, cleanliness of houses and streets, and lessened household burdens, are advantages over their former residences which brought out the heartiest expressions of approval. The women of the comparatively poor bear most of the drudgery of life, enjoy the least of pleasures, and are most narrowly circumscribed, with little change in cares, scenes, or social surroundings. Pullman has really wrought a greater change for the women than for any other class of its dwellers.

All the works and shops are kept in the neatest possible order. The planing rooms are as free from dust as the streets, blowers and exhaust fans, taking away all shavings, dust and debris, as fast as it accumulates. One notices everywhere the endeavor to save time and space in the construction of goods. As an illustration of the science which enters into manufacture we need only cite the shops where freight cars are built. All the timber is taken in in lengths at one end and is never turned around until it finds its proper place in a completed freight car, being carried constantly from one process to another in a direct line from its reception at one end to its utilization at the other. * * *

Gas and Lighting.—The city is lighted by gas, the works being east of the city on west shore of Lake Calumet. No nuisances in the neighborhood; lime process of purification used; satisfactory. There has been but little tarry waste and it is used for coating mains. Gas is furnished at $2.25 per M, when used for lighting only; for fuel at $1.75. Quality of gas satisfactory. No injurious effects to health from gas, other than two or three parties suffocated from blowing it out. Gas is made by the Lowe process. No analysis has been made of it. All streets are lighted; 250 lamps in use. Alleys lighted by the lamps on cross streets near them. The sale of gasoline is forbidden. Kerosene or coal oil is sold by grocers. No explosions have occurred from it. No accidents from explosions of gas in the history of the town. Electric light not yet in use.

Garbage and Excreta.—Garbage is daily removed for the Company by a contractor. Kitchen refuse is removed in covered wagons. Garbage, ashes, etc., are removed at the expense of the Pullman Company and taken three miles and buried. Removed daily and to the satisfaction of all. No nuisance or damage to health results from it. The cost of removal last year was about $1,800. The destruction of garbage by fire in kitchen ranges is encouraged, and it is hoped may become general. Dead animals are taken away and buried. No record of same was kept last year; the number was small. Disposition satisfactory. No laundry or kitchen waste water is delivered into cesspools on the premises, but goes directly into the deep sewers. Every house has a water closet, and all deliver directly to a public sewer. There are no cesspools and no privy vaults in the city. The dry-earth system is not used.

Markets and Food Supply.—There is one market building with sixteen commodious stalls and ample basement for each. Bread, meat, vegetables and fruit are sold from these stalls. No rules governing same except as to cleanliness, and cleanliness is strictly enforced. The market is 100x110 feet; stalls, 12x36 feet. A central hallway leads through the building from east to west, the stalls opening on each side thereof. The second story has an assembly room that will seat 600 people and is used for a public hall and for church purposes. There are two stalls where meat, fish, butter and cheese are kept; at all other stalls vegetables, fruits and canned goods are sold. The stalls are rented at $40 a month each. Market open from very early morning until 9 p. m. and later; Sundays until 10 a. m. The market is kept neat and clean, under the direction of the Pullman Company, and is inspected daily. There is one small meat market at north end of the town under similar supervision to that of regular market.

The supervision is effective and prevents the sale of unwholesome articles. The supply of fresh meat, as to quantity, quality and variety, is as good as the Chicago market can afford. There is no record of any condemnations by the inspectors of any meat or fish during the past year. The supply is obtained fresh daily. Meats and vegetables are brought to the city by wagon and railroad; meats from the stock yards, six miles distant. Nearly all fowls are brought to town and sold to consumers alive, except in winter, when much of it is dressed.

The supply of vegetables and fruits, both as to quantity and quality, is of the best. The bulk of it is derived from the immediate vicinity, and none has been condemned in the last year as unwholesome. Hucksters and peddlers take out a village license and peddle through the alleys to some extent. Fruits and vegetables would be condemned at once if found stale or decayed. No facilities are afforded producers as to sheds, stands, etc., and by paying a village license they can sell direct to consumers without further tax.

Milk supply heretofore has been the same as Chicago—"cow, chalk, pump, glucose, whiting, etc., but in what proportion a chemical analysis alone could determine"—but arrangements are now being made to supply pure milk from the Company's model farm. There are no records of any case of poisoning or acute disease caused by unwholesome food, canned or tinned meats, vegetables, etc. There has been but one prosecution under the State laws concerning the adulteration of food, drink, candies, etc. It was a case of a milkman, but proved to be prompted by malice and amounted to nothing. Oleomargarine is sold to quite an extent, the dealers informing the consumers of its true character.

Slaughter Houses and Abattoirs.—The meat supply for Pullman is all obtained at the Chicago stock yards: the number of animals slaughtered annually for consumption not known; none are slaughtered here for shipment.

MANUFACTORIES AND TRADES.—There are no manufacturing establishments within the city limits or in the suburbs that can be considered nuisances, hence have no restrictions upon such by local ordinances or regulations, and no pollution of water by same. A few women are employed in the upholstering department of the car shops and in rooms where mirrors are made and glass embossed, also some as clerks. No record of any of them subject to disease from their occupation. Hours of labor daily, ten.

A few children are employed as sweepers and messenger boys, the youngest 12 years old, such employment not affecting their health injuriously. Cubic space and ventilation in rooms occupied by work people satisfactory: air changed every 20 minutes and no dust. No impaired health due to lack of air. Privies and water closets in these buildings satisfactory, with drains leading to sewage pumps.

HOSPITALS AND PUBLIC CHARITIES.—There is no hospital as yet in Pullman, but one in contemplation. Patients have been provided for at Chicago hospitals near by. No free dispensaries. There is no system of public charity. There are relief societies where members are aided. Women aid any poor person who is ill. Results satisfactory. No physicians employed by the poor, but a surgeon is designated to attend cases of surgery when accidents occur in the works. Stretchers and means of transportation are always ready to convey injured to hospital.

POLICE AND PRISONS.—Pullman constituting a part of Hyde Park village, two village policemen are assigned to duty there. The two above mentioned, with a dozen night watchmen, who are likewise special policemen, constitute the entire police force. The police act as inspectors of nuisances, reporting anything they see that needs attention. Night patrol consists of the dozen watchmen referred to above, who patrol the shops, lumber yards and vicinity to guard against fire. No stations or lockups in Pullman. No houses of prostitution.

No license system. It has never been tried. There are no places where intoxicating drinks are sold except at the hotel, where a guest may order a glass of beer, but the citizens do not go there. A small quantity of bottled beer is sold and used in some families, but it is too small for an estimate. No estimate of the amount of distilled spirits drunk per annum can be had; men must either go to neighboring suburbs or Chicago for their liquor. No cases brought before magistrates or police courts for drunkenness during the past year.

There are no data as to facts or statistics relative to the relation between the consumption of alcoholic drinks and the prevalence of disease. The company forbids the sale of intoxicating drinks and will not lease a building for that purpose. This restriction clause is placed in all leases.

FIRE ESTABLISHMENTS.—A fire marshal is employed, at a salary, and the balance is a volunteer department. They have a system of fire alarm and police telegraph same as Chicago. Every block has an alarm box and each floor of every shop and public building is thus protected. The system answers the purpose thoroughly. No insurance patrol. No steam fire-engines. No hand fire-engines. Have one good hook and ladder truck and three hose carts. No floating engines or steamer with special fire pumps.

Water supply for fire is obtained by pumps sufficient to supply any demand. It is pumped to a tank on top of a water tower which holds 500,000 gallons, giving a pressure of 75 pounds to the inch on mains, sufficient to throw water from plugs to any desired place. "Fire extinguishers" are in general use throughout the shops and town, also hand grenades for instant use. Annual expense of fire department not over $2,500.

One marshal and about 25 volunteers constitute the force. A dozen sleep over truck and hose room at night.

Ambulance system same as that for hospitals, and same surgeon attends to any firemen needing help. The surgeon is paid for the work he does. No disease or accident as yet due to work incident to the fire department. General character of volunteer firemen for discipline, efficiency and sobriety good. They get out on the street within twelve seconds after alarm is given.

No loss of life by fire last year. No fires last year from use of dangerous or unfit fluids for lighting purposes and none from carelessness, such as defective construction. smoking, matches, fireworks, etc. Fires from spontaneous combustion of oiled waste, rags, etc., occur on an average of once a month in the shops. No incendiary fires.

Oils are kept by grocers, but no gunpowder, nitro-glycerine or dynamite is stored in the city limits. No laws with regard to building in reference to fire, other than constant care and watchfulness. The State law requiring doors of public buildings to open outward is complied with.

CEMETERIES AND BURIAL.—Pullman has no cemetery; burials are made in the neighboring cemeteries. There are two near the city, five miles west and north, respectively; the former having about 1,000 graves, the latter many thousand. No spring or well water is used here. hence no contamination from this source. Average depth of grave, five feet. Nature of soil sandy. Soil generally dry at depth body is placed. Many vaults are used, of brick and stone. Rapidity of decay in graves varies greatly. A few years would probably destroy all but the skeleton. No nuisance or evil effect has been observed from the cemeteries. Burial permits are required.

PUBLIC HEALTH LAWS, REGULATIONS, SANITARY OFFICIALS.—There is no board of health or municipal health organization, other than Dr. Flood, Health Officer of Hyde Park Village, of which Pullman is a part. Small-pox patients are removed to pest houses; in case of other contagious diseases patients are isolated and premises carefully disinfected. Vaccination is required as a prerequisite to admission of children to school.

Vital statistics are kept by Hyde Park health officer. Mortuary report shows street, block and No. of house. Births, marriages and deaths become matters of record through reports of physicians to health officer of Hyde Park. Report of same is published by said health officer.

REGISTRATION AND STATISTICS OF DEATH AND DISEASE.—No burials occur without record of death and burial permit issued by the health officer. No local system of registration of cases of death as yet in force. Two cases of small-pox in its history; occasionally a case of scarlatina; at rare intervals a case of diphtheria. Two or three cases of cerebro-spinal fever have been reported; a few cases have been diagnosed as typhoid fever, but it is denied by some that a case of typhoid ever occurred in Pullman. The first family came to Pullman, January 1, 1881, and all records of vital statistics since then have been kept by the health officer of Hyde Park.

Number of inhabitants under one year, 249; from two to five years, 764; under six years, 955; from five to fifteen years, 1,742. No record of diseases more or less prevalent than formerly. It is not noticed that immigrants suffer from the climate.

From a paper read by Dr. O. C. DeWolf, health commissioner of Chicago, before the American Public Health Association in Detroit, November, 1883, is taken the following: The town has now 7,500 inhabitants, and its average annual population has been 5,000. During the two years of its existence 69 persons died, its death-rate being therefore 6.9 per 1,000. The death-rate of the rest of Hyde Park (a village of which Pullman is legally a part, and which includes much rural territory) is 15 per 1,000. The cases of death were—

Zymotic diseases	23
Constitutional diseases	3
Local diseases	22
Developmental diseases	3
Violence	17
Unknown	1
	69

The large percentage of deaths by violence is due to the fact that Pullman is the centre of numerous railroads, and to the casualties attendant on its manufactures. The deaths under five years of age were thirty. Of these there died from zymotic diseases twelve, of which there died from—

Cholera infantum	6
Diphtheria	3
Scarlatina	2
(Toy pistol) Septicæmia	1
	12

This statement had reference to the two earlier years of the existence of Pullman. The last year presents as good a record. From November 1st, 1883, to November 1st, 1884, there were 53 deaths in Pullman. Hence there was an average of 7.6 deaths per year for every 1,000 of population. For three years Pullman has had this low death-rate. The average for American cities is over three times this number and the average annual death-rate of the world is 32 out of every 1,000 of population. The average death-rate in the city of Mexico is 56 per 1,000, or eight times the rate in Pullman. Of these 53 deaths, 2 were of persons over 50 years of age, 2 of persons between 40 and 50, 2 of persons between 30 and 40, 4 of persons between 20 and 30, 4 of persons between 10 and 20; none of persons between 5 and 10. Eleven were of children over 1 and under 5, while 28, or more than one-half the deaths, were of children under one year of age. The healthful conditions here are unequalled by those in any city of the world. The lowness of the death-rate is remarkable. With one quarter of the physicians that ordinarily administer to a population of this size, Pullman has only a little more than one-quarter of the deaths usual in the same number of people.

Only one hundred and sixty-four births were reported for the first six months, which would make an average of three hundred and twenty-eight for the year. There were forty-two births during the last six months in one block containing forty-eight families. The households of the city average two and one-tenth children each.

Municipal Sanitary Expenses.—No money was appropriated especially for sanitary purposes last year, this being among the general expenses. Nothing was expended for deep drainage, sewerage, paving, setting out of trees or repair of streets for 1885, none being needed. For street cleaning and removal of garbage the cost is from $6 to $8 a day. For care of market, $50 per month. Nothing for public baths. Care of parks paid out of general expenses. The general expenses of the town are paid by the Company. For public drinking fountains, urinals, expenses of board of health, quarantine purposes, erection or repairs of public buildings, etc., all are paid out of general expense and cannot be itemized.

Public Schools.—About 1,200 scholars register during the year, and there is a daily attendance of about 800. There is one school having 8 grades, and 20 teachers are employed. Each teacher has a programme suited to her needs, and they vary from term to term. Pupils under eight years are confined to room from three and one-half to four hours daily. Changes are frequent for recitations and exercise. Two sessions a day are favored for older pupils, but only one for children of six years. Older scholars occupy seats during recitation, small ones stand up. Older pupils study some outside of school hours, their own inclination and the judgment of their parents determining what and how long.

The school year consists of 200 school days. Saturdays and the usual holidays are observed, and 10 to 11 weeks for summer vacation. Exercise is not compulsory, but there is ample opportunity for it. Competition is not a feature in the system of instruction, and no prizes are awarded. The sexes study and recite together. Little if any corporal punishment is used, but credits are given for good behavior.

As a condition of admission to the public schools all must be vaccinated before enrollment. This rule has been obligatory from the beginning of the schools in 1881. Not a case of small-pox has occurred among the scholars at any time, nor among the teachers.

Pupils are not allowed to attend school from houses where contagious or infectious diseases prevail. Sickness of pupil or sickness in family is almost always alleged as an excuse for absence. No deaths among teachers and scholars as yet. Owing to the short time the schools have been in existence they have been unable to detect as yet any diseases arising from work in the schools, mentioned under question No. 19 in Schedule T. It is believed the advantages of grading pupils in large schools overbalance any minor disadvantages, and it is not believed that the large schools aid in propagating any particular disease. No data at hand to make comparison of frequency of heart disease among anemic and debilitated pupils who occupy upper floor with those occupying first floor. No facts regarding short sight owing to defective light, nor of spinal curvature owing to improperly constructed desk. The conditions do not obtain here to cause such results. It is believed that the sexes work together to advantage for the first eight years of school life.

The school site embraces about an acre at the south end of block nine. It is on a level with the rest of the city, thoroughly drained. The building is three stories and basement, has 14 rooms which will accommodate 56 pupils each. Is heated by steam. The temperature of whole building, rooms and hallways, during the winter is kept 65° to 70° Fahr. No sickness is traceable to variations or extremes in temperature. Building is heated from public boilers, so cannot tell how much fuel is needed. Room ventilated by flues in winter; in summer by flues and open windows. Seems to be satisfactory. No analysis of air during school hours has ever been made. Water closets are in basement and first class in every respect. A portion only of basement is used for water closets, the larger part as play room in stormy weather. It is ventilated separately from rest of building. Water supply from Lake Michigan and abundant. School rooms are sufficiently lighted. Rooms lighted on one side only have 150 square feet of glass, corner rooms much more. Blackboards all around the room, and the rooms will average 32x30 feet, floor area; opportunities for shelter from cold, heat or wet are good in the basement, and there is no closet air to breathe. Good opportunity for drying clothes wet on coming to school, in clothes room. No gymnastic apparatus as yet, but ample playground around the house and vacant blocks adjacent. Grounds are kept perfectly clean. Single seats and desks of the most approved patterns are used and are entirely satisfactory.

The Sanitary Survey of Pullman was compiled by Duane Doty, Esq.

Sanitary Survey of Quincy.

Compiled by E. B. Montgomery, M. D.

Location, Population and Climate.—Quincy, Adams county, is on the right bank of the Mississippi river, 150 miles above St. Louis. Latitude 40° N.; longitude 91° 5′ W. The town was founded in 1822, and incorporated in 1825. Population in 1860, 10,000; 1870, 24,052; 1880, [27,268].* Present estimated population [29,081] of whom [3,9-6] are under 5 years of age. Estimated number of persons of native birth, [21,520]; of foreign birth, [7,561]; negroes and mulattoes, [1,598]; Asiatics, 5, Meteorological observations have been regularly recorded in the city for the past 8 years by the Quincy water company.

Topography.—The city and the surrounding country are hilly, except along the bay and river. From one-half to three miles north there are several bluffs and mounds which rise from 150 to 250 feet above the river level. North and south of the city are several thousand acres of low, moist lands or "bottoms." That at the north, called the "Indian Grave Levee" district, has been drained and leveed; the bottom land south is covered by the river when high, leaving it damp and marshy as the river subsides. The lowest bottom is about 490 feet above sea level, trending south. To these marshes is due the prevalence of malarial fever.

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*Words or figures in brackets [ ] supplied in the office of the State Board.

On every side but the west, or river side, extend grass lands, forests, market gardens and farms. Much dredging and leveeing of watercourses has been done, and Quincy bay has been converted into a harbor.

Highest elevation of the city above the sea level is 693 ft.; lowest, 488 ft.; average 653 ft. The general surface slope is west towards the Mississippi river, which is here about 3,500 ft. wide, average depth 30 ft., with a gentle current. Its banks vary greatly, in some places being quite steep, in others presenting a gradual slope with considerable exposed shore, at the varying stages of water. This shore is in some places sandy, in others muddy. The water is clean, sand-bars numerous. Sewage and surface drainage enters the river through a small stream running through the south part of the city, and from gutters down Broadway, Main and Hampshire streets. There are several small ponds within the city limits which are stagnant during the summer and autumn. The "bottoms" are subject to overflow in June.

The site and vicinity belong to the carboniferous limestone period, with coal measures in the vicinity; the surface rocks are limestone and the underlying strata, in order of succession from above downward, are clayey loam, gravel, and limestone. The gravel strata are most permeable by water. The strata are horizontal with no dip or slope. The surface soil is a clayey loam. When the surface is disturbed, malarial effects are observed. Soil water flows through continuous fissures in the rocks and through the gravel strata.

Water Supply.—The chief water supply is from the Mississippi river and from cisterns. Water is pumped from the channel of river through iron pipes to a reservoir three miles distant, and is thence distributed by gravity. Capacity of conduit 75,000 gal. per hour. The river water is accumulated in a settling reservoir which has a capacity of 20,000,000 gals.; it is passed through a double well and a number of strainers, and is pumped only when clean. Average supply 500,000 gals. per diem; average supply to each inhabitant 15 gals. per diem. It is only used by a limited number.

There are no factories or other causes of pollution above source of water supply, and no villages nearer than LaGrange and Canton, Mo., 15 miles distant. About 12,000,000 gals. is, on an average, stored in the reservoir and available in case of fire.

Chemical analysis gives traces of salts of lime, soda and magnesia; no organic matter; water always excellent. There are two public fountains; four public drinking fountains, little used; 200 fire plugs.

Three-fourths of the population use cistern water for all domestic purposes; no wells; majority of cisterns thoroughly cemented and placed at a minimum of 40 ft. from any cesspool or privy.

Drainage and Sewerage.—The area within the city is 3,000 acres, about 200 acres of which is closely built up. The surface drainage is good, there being a gradual slope to the river. The "bottoms" south of the city are not drained. There are in the city two outlet earthen sewers, 3 feet in diameter, round in shape, and tightly cemented. These discharge into a creek—one at Sixth and Kentucky streets, the other at the foot of Broadway. They require occasional flushing and cleaning of filters.

There are 200 ft. of subsidiary sewers, one foot in diameter, of earthen material. These join the larger sewer with a curve to prevent stoppage of flow. Their capacity is sufficient to carry off surface drainage in vicinity, even in heavy storms. They are ventilated by manholes. Three-fourths of the area of the city is not sewered, one-half of which is built upon.

Sec. 476, Quincy Code of Municipal Regulations, concerning drains connecting houses with sewers, provides that—before connecting private drain with public sewer a permit must be obtained from the city engineer countersigned by the comptroller; the engineer shall prescribe mode of tapping, size of opening, and materials used in connection; the work is to be done under city supervision; unless applicant has been assessed for building sewer he shall pay $5.00 for permit.

No traps are required in the course of the connecting drain. It is not compulsory to connect with the sewers, but house drainage is disposed of mostly by throwing it into streets, alleys and yards. At times the odor is very offensive from the sewer openings and at their outlets.

Streets, Alleys and Public Grounds.—The general width of roadway of streets is 54 feet; of alleys, 20 feet. Sidewalks are of brick, 8 feet wide. Streets are considered most healthful and comfortable on the east side. There are 70 miles of streets, none of which is paved, except 10 miles of McAdam roadway and 2 miles of graveled roadway. The soil of the roadway is clayey; not unduly wet in the spring; no under-drainage. There is a paved gutter on either side of the street.

Part of the streets are cleaned in the spring and fall by the city; watering when done is at individual expense. It is impossible to keep the McAdam and gravel roadways clean.

Shade trees, elm and maple, are planted along the edges of sidewalks, 20 to 30 feet apart, over a large part of the city. Gas does not injure them. The trees have no direct ill effect upon health except where houses already damp are too much shaded. They are cared for by individual property owners, except in and around parks. No portion of the sidewalk or roadway is in grass. Sections 924, 925, 926, of the Quincy Municipal Code, requiring owners of adjacent property to clean alleys, premises and adjoining streets, are not enforced.

There are 2 public parks of 4 acres each within the city limits; also 3 open squares of 4 acres each within the limits. All are kept in good condition. One public fountain in park; one public urinal in court-house square.

Sections 904 and 905 prohibit, under penalty, damage to trees, plants, flowers, or property of whatever kind; the posting of handbills or other devices; hitching or driving; public speaking; depositing any sort of filth or litter; games, disorderly or indecent conduct; peddling, etc., in or about the parks.

Habitations.—Two-thirds of the houses in the city are occupied by their owners. There are 25 tenement houses; 12 over-tenanted. No municipal regulations about over-occupancy; none relating to material and manner of construction of houses, except within fire limits. One house was condemned as unsafe during the past year; none condemned as unfit for habitation for sanitary reasons,—one should have been. Few dwellings are connected with sewers; most of those so connected are by tight drains with suitable traps. No houses have either water-supply or privies in basements.

A large majority, probably five-sixths of all dwelling houses, are isolated buildings with sufficient yard around them. There are a few houses defective as to cellar and sub-ventilation, but none are damp or insufficiently drained, with rare exceptions. About one-tenth of the inhabitants are furnished with proper bathing facilities.

Some cases of diphtheria and malarial fever have occurred in one house on Olive street, due probably to bad condition of the cellar, which had water standing in it. Fuel is very generally stored in the cellars, and gases from coal have seemed to cause disease of respiratory tract. Basement floors are usually cemented; dwellings generally about 20 to 30 feet high.

One case of arsenical poisoning occurred in a little child, from green window curtains; and there have been some cases of acute dermatitis caused by wearing red stockings.

Gas and Lighting.—The gas works are located at Ninth and Jersey streets; are not considered a nuisance to the neighborhood. The lime process of purification is used with satisfactory results. The refuse is deposited on a vacant lot at gas works; gas is furnished at $2.25 per 1,000 cubic feet (with discount); it is satisfactory as to illuminating power (16-candle) most of the time; no analysis of the gas has been made. No injurious effects to health have been observed when properly used; three cases of sickness caused by closing doors and blowing out gas, two fatal.

Streets are lighted by electric light; alleys not lighted. One half the dwellings are not lighted by gas. Only oil of 110° fire test is allowed to be sold at retail. One accident occurred last year from gasoline in a stove; no gas explosions during the past five years. Water gas has been used, but no appreciable difference is noticed. The Thompson-Houston electric light system is used to light the city streets. No ill effects on health or eyesight noticed.

Garbage and Excreta.—Sections 700 to 705 of the Code, relating to the removal of garbage, etc., are complied with to a limited extent only. Garbage, ashes, etc., are removed sometimes twice a week by contractors, at the expense of the corporation, during the four months beginning June 1st. The removal is made to the city dump, one mile south of the city, on the river bank, where part is left and part thrown into the river. It should be removed oftener, at least during the summer; some householders destroy a great part of solid refuse by fire.

Dead animals are taken to a rendering establishment, two miles south of the city, which is a nuisance to its neighborhood and at times to the city. About fifty houses have cesspools on premises, into which is delivered the waste-water from kitchen and laundry. These are not furnished with overflows, and when full are cleaned by pumping out the contents. There are but few water-closets; about half of these deliver directly to the public sewers; the rest to cesspools. Nine-tenths of the houses depend wholly upon privy-vaults, the dry-earth system being little used. No inspection has been made, but, as sunk hogsheads are used in most cases, a very large number are not water-tight, and none are connected with the public sewers. Section 52 of the Quincy Code of Municipal Regulations recites that "The city council shall have power to compel the owner * * * of any * * * privy * * to cleanse * * the same from time to time, as often as may be necessary for the health, comfort and convenience of the inhabitants of said city." Sections 918, 919 and 920 regulate methods of construction and cleaning.

Markets and Food Supply.—There are no regular market houses. There is an ordinance against the sale of unsound meat, but as no officer is charged with the duty of inspecting food and markets, not much supervision is exercised; the health officer is supposed to do all the work of this kind that is done. There is a sufficient variety and quality of good, fresh meat. No meat or fish has been condemned within the last year. Vegetables, fruits, fowls, etc., are brought in wagons from distances varying from two to ten miles. A comparatively small proportion of fowls sold to consumers alive.

The supply of vegetables and fruits is quite satisfactory, both as to quantity and quality; all is furnished from the immediate vicinity, except such as is brought from the South. No fruits or vegetables have been condemned within the past year.

There are no municipal regulations with regard to hucksters or peddlers, to private markets, to hawking of fruits, etc., in the streets, and none concerning quality of fruits and vegetables offered for sale. No facilities, as sheds, stands, etc., are provided for producers. No tax is required of producers for the privilege of retailing fruit and vegetables; about one-fourth sell direct to consumer.

Many citizens keep cows. The milk furnished by the dairymen in the vicinity is generally good; a few cows are fed on distillery swill, and their milk is generally inferior.

Little attention has been paid to the subject of adulteration of food, drink, candies, medicines, liquors, butter, cheese, milk and vinegar; and there have been no prosecutions for non-compliance with the State law on the subject.

Oleomargarine is sold, but not as butter.

Slaughter Houses and Abattoirs.—The surrounding country furnishes animals for the city markets. Cattle are driven, and hogs and sheep hauled in wagons into the city. An average of twenty beeves, twenty hogs and fifty sheep per day are slaughtered for city consumption; they are not inspected either before or after slaughtering.

The meat of animals deprived of food and drink for twenty-four hours, provided this be a day or two before they are killed, is tough, tasteless, and of a dark color; immediately before they are killed, the same effect is observed, only in a less degree. Tubercular diseases and cholera render the flesh of animals injurious as food.

The mode of slaughtering is felling by blow on the head or spearing so as to sever the spinal cord at the base of the brain. The bodies of animals dying in transit are taken to the fertilizing and rendering establishment, one and one-half miles south of the city.

There are none but private slaughter houses; they are, however, regulated by city ordinance; and all animals are required to be killed at the slaughter houses. The business is not concentrated, there being about twenty-five small establishments within the city limits. The principal one drains into an open sewer near the river. They are considered as nuisances on account of the intolerable odor emanating from them. The city has as yet adopted no system of abattoirs, although the subject has been agitated since this survey began; and no facilities are offered to butchers for slaughtering.

In the disposition of fat, tallow, blood, etc., pork fat is tried out and used for lard; beef fat, or tallow, is sold to the soap-factory, and the blood and refuse are thrown away. The animal offal and refuse is fed to hogs kept for the purpose. There are no regulations to protect the public from consequent nuisance. The meat of these hogs is not considered as good as that of corn-fed hogs. The animal refuse is "rendered" when enough has accumulated to charge a rendering tank; it is done during the day in cold weather, and at night in warm weather. The method of cooling meat is to allow it to hang over night.

Manufactories and Trades.—There is a bone-boiling and rendering establishment 1½ miles south of the city, a slaughter-house in the south part of the city, and a tannery,—all of which are nuisances on account of the odors and noxious gases produced. Sec. 929 of the Code of Municipal Regulations states that "whoever shall establish or maintain any tallow chandlery, tannery, or soap factory in said city, and shall so conduct or carry on such business as to taint the air and render it offensive or unwholesome, or so as to affect the health or comfort of persons residing in the neighborhood thereof, shall be deemed guilty of a nuisance and shall be subject to a fine, etc."

There are no manufactories which pollute the water-supply, and none which produce disease in the workmen. Very few women and no children are employed. The hours of labor are from 8 o'clock a. m. to 12 m., and from 1 to 5 p. m.

The cubic space and ventilation in the rooms occupied by work-people are generally satisfactory. No diseases or cases of impaired physical condition have been observed, due to insufficient air supply to the work-people; and the arrangements in these establishments, for privies and water-closets, are quite satisfactory.

Hospitals and Public Charities.—The hospital accommodations of Quincy are ample. St. Mary's Hospital, near the corner of Fourteenth and Broadway, is under the charge of the Sisters of the Poor of St. Francis. It contains 75 beds, has an area of enclosure of about one acre of rich, clayey loam, used for vegetable garden. The building is heated by steam, and drained by a sewer.

The Blessing Hospital, near the corner of Tenth and Spring streets, is governed by a board of trustees. It contains 20 beds;

has an enclosure of about an acre. The drainage of the building is into a cesspool.

There is annually paid out about $15,000 on account of the public charities, $900 of which is for the salary of city physician. There is no ambulance system, but patients suffering from accidents, or in an emergency, are admitted to the hospital at once.

Reports of the two hospitals, with floor plans and descriptions, are furnished by Dr. Montgomery, from which the following is compiled:

St. Mary's is a four-story and basement building, 150 feet front by 50 feet deep. The basement (9 feet high) is used as a kitchen, laundry, etc. First floor (13 feet high) contains the chapel, parlor, reception and sitting rooms, office, dispensary, clothes room and 6 private rooms varying in size from 10x12 feet to 13x15 feet; with closets, halls, sinks, elevator, etc. Second floor (12 feet high) contains the men's wards, medical and surgical—with the necessary closets, bathrooms, special diet kitchen, private rooms, etc. Third floor (12 feet high) contains the women's wards, medical and surgical, etc., but is only 25 feet deep. Fourth floor is devoted to the Sisters' sleeping-rooms, store-rooms, etc. The building is heated by steam throughout, and has a steam elevator running from basement to fourth floor; engine room and boilers are underground to the west of the hospital. The plumbing is good, and all wastes are discharged direct through properly trapped and ventilated connections into the Broadway sewer. The water supply is from the city water-works; is ample and of good quality. The building is surrounded on all sides by ample space devoted to gardening, the nearest buildings being the dead-house and the barn, 130 feet and 140 feet distant, respectively. Total number of cases treated during past year, 572; in medical wards, 475; in surgical wards, 97. Total deaths, 46; in medical wards, 39; in surgical, 7. Remaining, 60.

Blessing Hospital is a two-story building, containing 20 rooms on the two floors, devoted to the usual hospital purposes. There is also a cellar, in which is the hot-air furnace by which the building is heated; and an attic used for store-room. Water supply from the city water-works; ample in quantity, and quality good. The drainage of the building is into a cesspool which is cleaned annually. The hospital—which was completed for occupancy in May, 1875, at a cost of $12,000—is maintained by the Charitable Aid and Hospital Association of Quincy, incorporated in 1873. The hospital is free to all who need, and have reasonable claim upon, its services, and are unable to pay, and receives all cases, except patients with contagious disease, or some recognized as specially objectionable. To those who have the means to meet the expense, a moderate charge is made. A large percentage of the patients is made up of cases gratuitously cared for. During the past year, of the 119 admissions, 57 were free patients.

Police and Prisons.—The police force is organized under city charter. It numbers twenty-five. The members act as inspectors of nuisances. There is a night patrol numbering eighteen. Per cent. of sick days among the force, *one*.

There is one temporary station or lockup. Both sexes are confined therein. Average daily number of prisoners occupying same, *four.* Air space per head for such average occupancy 704 cubic feet, for maximum occupancy about 350 cubic feet. Dimensions of cells for single prisoners, 8x8x11 feet. Vagrants are kept separate from prisoners. Ventilation of station house effected by ventilators in floor and ceiling. Water closets therein have direct connection with sewer. There are no rules or facilities 'for bathing inmates. The city physician attends the prisoners and when found necessary they are sent to the hospital. The police department has a wagon which is used as an ambulance.

There is a house of correction called a "workhouse" and a county jail within the city limits, the average occupancy of same being 25 and 20 respectively. There are no single cells in the workhouse. It is heated by stoves. The cells in the jail are 8x10x10 feet. It is ventilated by windows and heated by a hot-air furnace. The workhouse is of cobble stone and very dirty. It is in a very unsanitary condition. The ceilings are only 10 feet high, and in summer time it has contained as many as 36 persons. They sleep on bunks. The jail proper is in the basement of the court house and is divided up by gratings. Its sanitary condition is not of the best. It is well ventilated and heated, but owing to its being in the basement it is somewhat damp and malaria prevails. No reports concerning these institutions have been published. No epidemics have ever occurred among the prisoners. Diet allowed prisoners, bread, potatoes and a little meat. No work is required of prisoners at county jail; those at the workhouse must break rock.

There are eight houses of prostitution in the city and it is estimated that there are fifty prostitutes. There is no medical supervision of these women. They are more subject to general disease than other women.

There are ninety-nine places in the city where intoxicating drinks can be had. No beer gardens. The sale of intoxicating drinks is regulated by the city ordinances. Number of cases brought before magistrates last year for drunkenness, 236. Cirrhosis of liver seems to be prevalent among saloon keepers and hard drinkers.

Fire Establishments, etc.—The fire department is established by ordinance and is composed of three commissioners, chief and assistant engineer and such firemen and employés as the council shall provide. It is a paid department. There is a fire alarm and police telegraph and it thoroughly answers its purpose. There is an insurance patrol for discovering fires and saving property. Number of steam fire engines, five. There are no hand fire engines and no floating engines or steamers with special fire pumps. Water supply for fires is obtained from mains of water company and is abundant. Fire extinguishers are in general use, "the hand grenade", which is thrown into the fire, being most in favor.

The annual expense of the fire department is $16,449.13, and the number of persons employed is 32. The men are berthed over the engine and horses. The per cent. of sick days among the firemen is *one*. Very few accidents occur in line of duty. There have been no deaths in many years among the force. There is no ambulance system, and no medical man connected with the department.

Disease and accidents are very rare among the firemen and their general character for discipline, efficiency and sobriety is good. There was no loss of life from fire in the past year.

Loss of property from fire past year $6,609.75. The storage of gunpowder, nitro-glycerine, dynamite and coal oils is regulated by ordinance. No measures are taken to insure inspection of illuminating oils. The construction of buildings with reference to fire is controlled by ordinance. The State law requiring doors on public buildings to open outward is complied with.

Cemeteries and Burials.—There is one cemetery within the city limits—Woodland, and 400 interments take place there annually.

There are four cemeteries near the city, Green Mountain, St. Boniface, St. Peters and Hebrew, with 60, 157, 47 and 10 interments, respectively, annually. The number of graves in each cannot be given.

It is not considered that the subsoil drainage from land containing graves contaminates springs, wells or water courses. Average depth of grave six feet. Nature of soil clay loam. Soil is dry at depth bodies are placed. Only one or two vaults are in use, built of stone. No nuisance or evil effect has been observed from the cemeteries.

No extra precautions have been taken with regard to the burial of persons dying of contagious diseases. There is one receiving vault, and it is managed so that it does not become a nuisance.

Burial permits are required.

Public Health Laws, Regulations, Sanitary Officials.—Name of health organization is Quincy Board of Health. Organized in 1874. It has general supervision over the public health of the city. The board is composed of the mayor and three aldermen selected by him, and in case of sanitary emergency or prevalence of contagious diseases, three physicians may be added thereto. It is a public body acting ex-officio as such. Ordinarily the members of the board number four except in cases of emergency above referred to. No salary attaches to the office, except to that of health officer, who receives $100 per annum. One member of the board is a physician, being also an alderman.

The board has an executive health officer, but he is not a physician; he is selected by the city council. There is one assistant health officer, who is also city marshal, and receives a salary of $300 yearly. All members of the board have police powers. They do not make inspections unless there is complaint. The board meets once each month, nominally.

The powers of the board are specifically defined and limited by ordinance. Only in times of epidemic has the board authority, independent of city council and police, to make and enforce ordinances. The board has authority to abate as well as define nuisances. It takes no cognizance of defective house drainage; of defective sewerage only in connection with city council; of contamination of water supply not at all; of the condition of cesspools and privy vaults only on complaints. It aims to supervise the removal of garbage and cleansing of private premises, and as to condition of streets it makes recommendations to city council.

Isolation is enforced in cases of small-pox. The board has power to remove persons sick with contagious diseases to a special hospital, and in the last epidemic of small-pox it condemned one house and used it as a hospital. School children are required to be vaccinated. Other measures taken to restrict contagious or infectious diseases are the posting of signs in scarlatina and diphtheria.

The board keeps a record of all the death certificates. Mortuary report shows street, block and house number. Births, marriages and deaths, respectively, become matters of record through certificates returned to the county clerk. To the city council, annually, the board makes report of causes of mortality, and records of death. The report is published with the reports of other city officers.

Registration and Statistics of Death and of Disease.—Notwithstanding an ordinance forbidding it, burials occasionally occur without record of death or permission granted by health authorities. Sec. 672 of the Code provides that it shall be the duty of the board of health * * "to keep a complete mortuary record, stating the number of deaths, date, cause, birthplace, age, residence, name, sex, color and length of residence in the city." * * * And section 685 recites that "no deceased person shall be taken from this city for interment or [be] interred in this city until a certificate of the attending physician or coroner, setting forth the facts required to be stated in the mortuary record provided for in this chapter, shall first have been filed by the health officer, and his permit, in such form as the board of health may prescribe, granted for such removal or interment. Such certificate shall be made out forthwith upon the death of the patient, and shall thereupon be left at the house where the death occurred or with the undertaker in charge, and should said physician be called away from the city before delivering the same he is hereby required to leave such certificate so made out with some person authorized to deliver it for him."

This mortuary record is published annually. Cases of scarlatina, diphtheria and small-pox are required by the ordinance to be reported to the local board of health. The board records only the nature of the disease and name and age of patient.

No penalties are specified for violations of these sections of the health ordinance; but sec. 976 of the Code provides that—"Whenever in any ordinance the doing of any act, or the omission of any act or duty, is declared to be a breach thereof, and there shall be no fine or penalty declared for such breach, or no maximum or minimum fine or penalty declared for such breach, any person who shall be convicted of any such breach, shall be adjudged to pay a fine of not less than three nor more than one hundred dollars."

The following diseases have been epidemic in Quincy: Asiatic cholera, July, 1833, mortality 40; 1849-50-51, mortality 586. Small-pox, June, 1878, 1 death; April and May, 1882, 3 deaths. Scarlatina, 1882, mortality 33; 1883, mortality 21. Diphtheria, 1877, mortality 47; 1881, mortality 41; 1883, mortality 65; greatest prevalence in October, November, December. Typhoid fever, 1875, mortality 51; 1876, mortality 39; 1880, mortality 40.

In the following tables the mortality from the specified diseases is given in full by months for each year. Where a year is omitted in the period 1875 to 1884, inclusive, there was no mortality from the specified disease during that year.

MORTALITY FROM SPECIFIED DISEASES IN THE CITY OF QUINCY, DURING THE TEN YEARS, 1875-1884, INCLUSIVE.

	Year.	Jan....	Feb ...	Mar ...	April...	May...	June ...	July ...	Aug. ...	Sept ...	Oct ...	Nov ...	Dec ...
A.—Malarial fever.	1875	....	1	....	....	....	...	....	....	....	...	1	....
	1876	...	1	...	1	....	1	1	2	4	2	1	2
	1877	....	1	....	1	1	....	....	...	1	3	1	1
	1878	....	....	...	1	....	....	1	5	10	1	3	....
	1879	..	....	....	2	...	3	1	3	2	...	2	3
	1880	1	....	1	1	...	....	2	...	4	1	....	....
	1881	...	...	1	1	1	....	1	5	2	3	2	1
	1882	2	...	1	1	....	..	1	5	1	1	1	....
	1883	...	...	..	1	....	...	1	...	2	1	....	....
	1884	1	....	1	....	1	1	1	....	1	2	1	3
B.—Typhoid fever	1875	4	....	2	...	....	....	3	11	70	14	8	2
	1876	..	1	2	4	..	3	6	8	7	3	2	3
	1877	....	2	1	1	...	1	....	3	5	3	4	4
	1878	1	3	1	...	1	5	2	5	1	...	1	1
	1879	2	2	....	2	2	1	4	3	7	7	4	3
	1880	6	..	....	1	6	3	7	7	5	2	1	2
	1881	..	3	...	2	2	4	1	11	4	5	5	8
	1882	1	4	1	1	1	....	4	3	3	1	2	....
	1883	...	8	5	4	....	1	2	1	2	...		2
	1884	3	....	1	....	....	...	..	1	3	6	10	7
C.—Cerebro-spinal fever and meningitis	1875	...	....	....	3	2	1	9	2	2	1	..	1
	1876	3	2	4	4	....	3	3	5	1	1	1	1
	1877	5	3	...	1	5	1	2	2	1	1	1	....
	1878	...	..	3	4	1	1	4	3	3	2	2	....
	1879	2	2	1	3	3	1	6	1	1	..	1	1
	1880	1	1	1	2	...	2	2	...	4	1	2	....
	1881	....	1	1	6	4	4	2	3	..	2	..	....
	1882	2	2	6	1	1	3	4	2	1	2	1	....
	1883	...	...	1	3	3	....	1	.	....	1	....	....
	1884	...	2	....	2	1	2	4	1	2	...	....	1
D.—Erysipelas	1876	....	1	1	1	..	1	....	..	....	....	...	....
	1877	...	...	...	1	1	1	....	....	1	....	1	3
	1878	....	..	....	....	....	....	...	....	....	....	...	1
	1879	....	1	2	....	....	....	....	...	....	....	1	....
	1880	2	1	1	1	...	..	..	....	....	....	....	....
	1881	...	...	....	....	...	....	....	1	....	....	....	1
	1883	....	....	2	....	....	....	....	....	....	....	...	...
E.—Dysentery	1875	....	...	2	...	....	1	19	8	6	3	1	...
	1876	...	....	....	....	1	....	1	3	5	....	...	....
	1877	...	....	...	1	....	1	5	1	....	....	....	...
	1878	....	....	....	....	...	2	8	3	....	....	1	...
	1879	...	....	....	1	....	3	2	1	...	....	....	1
	1880	1	....	....	....	1	5	1	1	4	1	....	....
	1881	....	...	....	....	....	2	1	1	2	....	1	....
	1882	....	....	....	....	1	....	3	7	1	....	1	1
	1883	....	....	....	....	....	...	7	3	1	1	....	....
	1884	1	...	....	1	...	....	1	....	...	....	1	....
F.—Diarrhoa	1875	....	...	....	1	2	2	27	11	4	...	3	....
	1876	1	..	1	...	1	1	18	9	2	3	1	2
	1877	1	1	1	1	1	5	12	9	...	..	1	1
	1878	1	....	1	1	....	8	13	6	...	2	1	....
	1879	....	....	...	....	...	...	20	8	3	4	3	....
	1880	3	3	....	....	1	8	22	6	2	4	2	1
	1881	2	1	2	....	1	4	18	12	8	4	2	3
	1882	2	....	....	1	...	7	16	7	2	....	1	1
	1883	...	...	...	1	3	3	12	6	2	1	2	3
	1884	2	....	1	1	2	1	17	3	2	2	3	....

Mortality—Continued.

	Year.	Jan	Feb	Mar	April ..	May....	June ...	July ..	Aug	Sept ..	Oct ...	Nov ...	Dec ....
G.—Scarlatina	1875	1	...	1	1	....	1	...	..	1	...	...	....
	1876	...	....	....	....	...	4	4	..	2	...	1	2
	1877	3	1	1	1	2	1	1	1	1	4	...	...
	1878	2	1	1	....	...	1	....	...	....	....	...	1
	1880	....	....	1	...	....	...	...	....	..	....	...	...
	1881	....	....	....	...	...	....	...	..	....	....	....	6
	1882	3	2	...	....	....	3	...	3	1	1	12	2
	1883	....	4	8	2	2	1	....	....	....	....	....	4
	1884	2	1	1	4	4	....	...	....	....	....	...	....
H.—Diphtheria......................	1875	2	2	1	2	....	...	....	....	....	2	...	1
	1876	....	...	...	1	...	2	2	...	1	1	1	3
	1877	1	1	....	3	1	....	....	3	3	9	11	15
	1878	1	6	7	2	2	...	....	....	3	2	4	1
	1879	1	....	....	....	....	...	....	1	...	....	...	..
	1880	...	...	2	...	5	2	2	2	3	4	7	3
	1881	3	2	2	1	2	..	2	1	1	11	11	5
	1882	1	...	...	1	1	1	2	1	1	1	3	6
	1883	....	2	3	8	1	1	....	6	8	15	12	9
	1884	4	2	3	2	4	2	...	....	....	5	6	6
I.—Croup.....	1875	1	2	2	2	....	1	...	1	...	1	...	1
	1876	....	...	...	...	....	....	....	...	1	2	1	2
	1877	1	1	1	1	....	....	....	....	1	2	1	...
	1878	1	1	....	...	....	....	...	...	1	....	2	2
	1879	....	...	....	1	...	...	...	2	1	3	3	1
	1880	1	1	...	...	1	...	...	...	3	3	1	1
	1881	2	2	1	3	...	....	....	2	1	...	2	1
	1882	2	..	...	...	...	...	....	....	...	...	...	....
	1883	....	1	...	1	..	....	....	....	....	...	1	....
	1884	3	...	1	2	..	....	....	....	3	1	2	3
K.—Measles....................	1875	....	...	...	....	1	...	....	....	1	....	....	....
	1876	....	1	1	1	4	1	...	....	....	....	..	....
	1880	.	...	2	1	1	.	....	...	....	....	2	1
	1881	2	....	1	...	....	....	....	...	...	....	...	....
	1882	....	....	....	....	1	....	...	...	....	....	....	....
L.—Whooping cough................	1876	....	....	....	2	...	....	2	6	5	2	...	3
	1877	...	3	4	2	3	5	1	...	1	....	...	....
	1879	....	2	....	1	...	4	....	1	1	2	2	3
	1880	3	5	2	1	1	....	1	....	...	1	....	....
	1881	....	..	..	....	....	...	....	....	....	1	...	....
	1882	....	....	....	....	...	1	...	....	....	....	....	....
	1884	1	..	...	....	....	....	5	1	....	....	....	....
M.—Pneumonia......	1875	9	12	4	5	2	1	2	1	...	1	3	8
	1876	....	8	14	9	3	2	1	1	1	3	2	5
	1877	2	4	10	11	4	1	....	2	1	1	1	1
	1878	4	1	3	4	2	4	...	....	....	3	6	10
	1879	6	6	3	3	4	1	1	....	1	3	7	7
	1880	9	12	12	13	9	2	2	1	1	....	4	3
	1881	6	7	5	2	1	1	....	...	1	2	2	4
	1882	6	2	7	5	5	...	....	1	1	2	1	1
	1883	....	1	7	2	...	1	1	....	....	1	3	4
	1884	3	7	7	8	5	1	2	....	1	1	4	4
N.—Pleurisy..........	1876	....	....	....	....	....	....	....	....	....	....	..	1
	1880	....	....	....	....	1	....	....	....	....	....	....	....
	1882	1	...	....	1	....	...	...	....	...	....	....	....
	1883	....	....	1	1	....	....	..	....	....	...	....	....
	1884	....	....	....	....	....	....	1	....	...	...	....	....

Mortality—Continued.

	Year.	Jan....	Feb....	Mar....	April...	May....	June...	July....	Aug....	Sept....	Oct....	Nov....	Dec....
O.—Phthisis...........................	1875	5	5	8	6	5	6	6	6	4	3	3	5
	1876	7	7	11	10	6	5	7	10	10	4	6	5
	1877	9	8	6	4	9	7	4	7	5	6	4	5
	1878	6	5	11	8	4	4	6	5	5	3	5	4
	1879	7	5	7	2	7	6	7	10	4	7	6	8
	1880	6	7	7	3	6	8	7	1	5	8	4	2
	1881	7	2	8	6	1	5	11	5	4	4	1	4
	1882	6	10	8	6	3	4	6	5	3	3	2	1
	1883	....	5	6	2	....	1	5	6	3	2	6	4
	1884	4	5	6	4	6	4	6	4	3	6	8	3
P.—All other diseases of the lungs	1875	5	5	1	2	1	3	1	1	1	3	...	1
	1876	1	....	4	5	2	1	2	2	2	3	8	3
	1877	2	5	6	3	...	...	....	3	2	2	2	5
	1878	1	2	1	2	2	1	1	1	2	3	3	6
	1879	3	7	6	9	1	....	3	2	4	1	3	2
	1880	6	7	8	....	2	3	2	1	...	....	2	6
	1881	6	1	1	3	1	1	....	2	2	...	2	4
	1882	1	1	5	3	....	2	1	1	1	1	....	2
	1883	....	2	2	2	....	1	....	....	1	3	1	3
	1884	2	4	3	3	2	2	2	....	2	...	3	3
Q.—Diseases of the heart.........	1875	2	1	....	3	3	2	...	....	1	1	..	1
	1876	1	2	....	4	1	...	2	....	....	....	..	2
	1877	1	2	...	2	....	5	3	...	....	1	....	....
	1878	2	1	1	2	1	....	1	1	....	1	...	1
	1879	4	2	3	2	5	3	1	1	....	3	4	3
	1880	1	3	3	2	...	2	....	1	...	...	1	2
	1881	...	2	1	6	2	1	3	2	2	...	....	1
	1882	3	2	1	....	1	4	1	....	4	1	1	1
	1883	....	1	...	1	1	...	1	1	....	1	1	....
	1884	3	1	....	4	1	1	1	2	...	1	4	1
R.—Diseases of the urinary organs	1875	2	....	2	1	....	1	...	....	....	1	1	1
	1876	1	....	1	....	2	2	1	....	...	2	...	1
	1877	1	....	...	....	2	1	....	....	....	...	2	....
	1878	....	....	1	....	...	1	....	....	....	1	1	...
	1879	....	....	....	1	1	1	...	1	....	1	1	...
	1880	....	...	...	1	....	....	1	2	....	...	...	....
	1881	1	2	1	2	1	....	....	2	1	1	1	2
	1882	....	...	....	....	...	1	1	2	....	...	..	....
	1883	....	....	1	...	3	1	....	1	1	1	1	2
	1884	3	....	. ..	1	2	4	2	1	1	1	1	1
S.—Apoplexy	1875	1	3	3	3	3	1	1	...	1	....	....	2
	1876	1	1	1	2	....	....	....	3	...	1	....	1
	1877	1	2	....	....	2	1	1	3	2	1	1	1
	1878	1	1	3	2	....	2	5	1	2	1	1	3
	1879	2	...	1	3	1	3	4	1	....	3	....	....
	1880	1	1	3	...	2	....	2	1	2	1	3	1
	1881	....	1	....	....	....	2	1	...	2	...	2	1
	1882	1	4	3	3	3	....	2	2	1	1	....	....
	1883	....	....	....	1	2	...	1	3	1	....	1	1
	1884	....	....	....	...	1	3	1	3	4	3	2	1
T.—Tetanus..........	1875	...	1	....	....	....	....	1	....	1	....	....	....
	1876	1	....	....	....	....	....	....	....	....	...	....	....
	1877	...	....	...	....	....	....	....	1	....	..	1	....
	1878	1	....	1	....	....	...	....	....	....	....	....	....
	1879	....	....	....	1	....	....	....	....	....	....	....	....
	1880	..	..	1	....	....	1	....	....	...	....	....	....
	1881	...	....	1	....	...	....	....	...	1	....	....	....
	1882	1	1	...	....	...	...	....	1	1	....	....	....
	1884	...	....	....	....	....	1	....	....	....	....	....	1
U.—Hydrophobia	1880	....	....	...	....	....	....	...	....	1	....	....	....

Mortality—Continued.

	Year.	Jan ...	Feb	Mar	April...	May....	June	July....	Aug	Sept ...	Oct	Nov ...	Dec ....
V.—Puerperal diseases........	1875	1	1	1	...	....	2	....	1	1	....	....	....
	1876	..	....	....	1	...	....	...	....	..	..	..	...
	1877	1	....	....	1	1	...	1	....	1	...	....	....
	1878	1	...	....	....	....	....	....	1	..	....	....	2
	1879	2	1	....	....	1	....	1	...	...	1	....	....
	1880	....	....	....	....	....	....	....	2	...	. .	1	....
	1881	1	2	1	...	1	1	1	..	1	....	....	....
	1882	....	...	...	1	1	1	1	...	...	.	...	2
	1883	...	1	1	1	1	....	....	....	1	...	..	....
	1884	1	....	1	....	....	...	...	....	....	...	...	....

Note.—It is to be observed that no death from trichiniasis occurred in Quincy during the period covered by these returns.

[Dr. Montgomery has furnished the following mortality return for the foregoing diseases for the year 1885:]

	Jan......	Feb	Mar......	April.....	May......	June......	July	Aug	Sept.....	Oct	Nov	Dec ......
Malarial fever........	......	......	1	......	......	1	......	2	2	......	1	......
Typhoid "	3	2	3	3	2	1	... ..	1	1	5	1	2
Cerebro-spinal fever	......	2	......	......	2	3	1	4	......	1	1	1
Erysipelas............	......	......	......	......	......	1	......	1	......	....	......	......
Dysentery	......	......	......	......	1	2	2	4	....	......	......	......
Diarrhea.............	4	1	2	1	1	2	21	16	2	3	1	2
Scarlatina...........	......	......	......	......	......	1	......	... ..	....	......	......	......
Diphtheria...........	3	......	2	1	......	......	......	1	1	1	...	1
Croup................	......	1	......	1	......	......	......	......	1	1	1	......
Measles	......	......	......	......	......	......	......	......	......	....	......	......
Whooping cough	......	......	......	......	......	2	......	1	......	......	......	......
Pneumonia	5	7	4	6	4	......	......	......	1	3	......	2
Pleurisy	......	......	......	......	......	......	......	......	......	......	......	......
All other diseases of lungs	5	2	7	7	1	1	3	......	......	5	2	3
Diseases of heart ...	2	......	5	3	3	1	2	5	......	2	1	1
Phthisis...........	3	6	3	11	6	3	4	6	3	10	7	5
Diseases of the urinary organs..	1	1	1	2	......	2	......	1	......	......	......	1
Apoplexy............	2	......	1	3	......	2	2	3	1	1	......	2
Tetanus..............	1	1	1	1	1	1	......	1	......	.....	1	1
Puerperal diseases	......	2	......	4	......	......	......	1	.....	....	......	1

Records of mortality among infants and children are obtainable only for the years 1875, '76 and '77:—

No. of Deaths.	Year.	Jan....	Feb ...	March.	April..	May....	June....	July ..	August	Sept ..	Oct	Nov	Dec ....
Under one year of age............	1875	6	9	6	7	6	8	30	14	15	5	10	6
	1876	5	11	13	15	5	11	27	22	11	7	5	17
	1877	12	14	14	14	9	9	21	7	13	10	7	9
From one to five years..............	1875	5	6	11	8	7	11	32	11	6	14	1	12
	1876	4	3	8	9	7	3	22	11	19	9	3	13
	1877	10	10	8	5	5	13	13	9	3	11	11	13
From five to fifteen years	1875	3	2	2	2	..	5	8	4	5	.	1	3
	1876	2	1	4	5	5	2	7	3	6	5	1	3
	1877	4	4	1	2	3	2	1	1	4	4	8	5

During the ten years, 1875–1884, there have been the following number of still-births, including under the head of still-births, abortions at all periods of utero-gestation:—

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1875	2	2	1	2	2	1	1	1	4	4	2	2
1876	2	4	4	..	5	1	2	7	4	3	4	5
1877	..	6	4	1	1	4	4	1	1	1	4	2
1878	2	4	2	1	1	2	2	2	2	5	3	3
1879	5	1	2	2	3	..	3	4	2	..	1	..
1880	5	1	2	3	..	2	4	4	6	1	3	2
1881	..	..	2	4	6	3	3	7	..	1	4	5
1882	..	..	3	3	..	3	..	2	3	..	1	2
1883	..	..	2	3	..	..	..	..	..	1	1	3
1884	..	1	1	1	4	3	5	..	..	2	2	..

Pneumonia, phthisis, diarrhea and dysentery are less prevalent than formerly; and diphtheria, scarlatina and diseases of the urinary organs are more prevalent.

Immigrants from abroad, as well as those from other parts of the United States, suffer more or less from malarial fevers; but otherwise are not affected by the climate.

Municipal Sanitary Expenses.—There was appropriated and expended for sanitary purposes during the fiscal year, $2,500; for paving and repairing streets, $34,000; for cleaning streets, $1,000; for removal of ashes and garbage, $1,000; for care of public parks, $300; salary of health officer, $100; of sanitary policemen, $300; repairs of public buildings, $300.

Estimated expenditures by individuals: For sewer connections, $500; for paving, setting out trees and repairs of streets, $2,000; cleaning streets, $200; for removal of ashes and garbage, $300.

Total municipal expenses of past year, exclusive of interest on debt, and liquidation of part of same, $85,000.

Public Schools.—There are 12 public schools, comprising one high-school, 3 grammar-schools, and 9 primary-schools. Number of scholars registered during the year, 4,000; monthly average enrollment, 3,000; average daily attendance, 2,700. The school programme varies according to grade. For 4th and 5th grades:—Written arithmetic, 60 minutes; reading, 40 minutes; language, 30 minutes; spelling, 35 minutes; mental arithmetic, 40 minutes; geography, 30 minutes; writing or drawing, 30 minutes. Pupils under 8 years of age are not confined to the school-room to exceed an hour and a half at one time; nor to the seat without change for more than ten minutes.

Experience here favors two sessions, with an intermission of an hour and a half at noon; recess of 15 minutes both morning and afternoon. Some classes stand, others sit during recitation. Arithmetic and reading are usually studied outside of school hours; average time required about 30 minutes. Average time spent by grammar and high-school scholars in outside study, from 30 to 60 minutes.

There are 5 school days of five and a half hours each in each week. Vacations, 10 days each in December and January; from

June 16 until the first Monday in September—from 75 to 80 days; besides all legal holidays. Open air exercise is compulsory in good weather.

The sexes study and recite together. No prizes are awarded, except that the diligent and capable are promoted to a higher grade. Corporal punishment is occasionally, and suspension sometimes, used as a means of correction.

As a condition of admission to schools, pupils must satisfy teachers that they have been vaccinated. This rule was instituted many years ago, and is pretty generally enforced. Not a case of smallpox has occurred among the scholars during the past 15 years, nor among teachers during the past 20 years. The rule that no child shall attend school from a family of which a member has a contagious or infectious disease, is rigidly enforced.

From a sanitary point of view experience teaches us that school buildings should certainly not be more than three stories high. Two or three examinations have been made, with good results, in our large schools, respecting the frequency of short-sight among the pupils of the several ages and grades, and as to the effect of defective light, and improperly constructed desks and seats. Our experience is, that competition between pupils of both sexes is judicious, and that it is beneficial to both.

[The following data concerning the individual schools are compiled from the reports, plans and diagrams furnished with the Sanitary Survey:]

Jefferson:—Situated on 4th and Spring streets. Area of lot, 65,000 square feet; of building, 5880 square feet. Good, natural drainage; clay soil. Building of brick; erected in 1856; cost $39,100. Two stories, containing 10 rooms, used for scholars; capacity, 60 each. Rooms heated by wood stoves, consuming about 75 cords of wood annually; some sickness is traceable to variations and extremes of temperature. Ventilation is effected by raising and lowering the windows. No privies or water-closets in the building; one for each sex in the back yard; cleaned annually. Basement used for storing fuel; is ventilated separately from rest of building. Water is supplied by three cisterns; quality is good. About 120 square feet of surface admits light to each room. Average distance of pupils from blackboards, etc., 10 to 12 feet. No opportunity for exercise under shelter, nor provision for drying wet clothing. The playgrounds are clay, very muddy in wet weather; very few shade trees. The Andrews "Triumph" desk is used in the school, and is satisfactory.

Franklin:—Situated on 5th street, between York and Kentucky streets. Area of lot, 24,000 square feet; of building, 5600 square feet. Is drained by sewers. Building of brick; erected in 1870; cost $34.100. Three stories, containing 12 rooms, used for scholars; capacity, 60 each. Rooms are heated by steam. No sickness traceable to variations and extremes in temperature. One hundred and fifty tons of soft coal annually are required to heat the building. Ventilation is effected by raising and lowering of windows. There are two water-closets on each floor, also two in the yard; their condition is satisfactory. Basement is used for storing fuel and for heating apparatus. It is ventilated separately from rest of building.

Water is supplied by two cisterns and from the river; cistern water not very good, being colored by soot from the roof. About 100 square feet of surface admits light into each room. Average distance of pupils from blackboards, etc., 10 to 12 feet. No opportunity for exercise under shelter, nor provision for drying wet clothing. There is no gymnastic or calisthenic apparatus connected with the school. Sewer connections are cleaned annually when school is not in session. Andrews seats and desks are used and are satisfactory.

Berrien:—Situated on south 8th street. Area of lot, 14,400 square feet; of building, 2304 square feet. Good, natural drainage; clay soil. Building of brick; erected in 1867; cost $8,320. Two stories, containing four rooms, used for scholars; capacity, 60 each. No basement. Rooms are heated by wood stoves, consuming about 25 cords of wood annually. Some sickness is traceable to variations and extremes of temperature. Ventilation is effected by raising or lowering windows. There are water-closets in the building and two in the rear of lot. Water supply is from two cisterns, is abundant, and quality good. About one hundred and forty-four square feet of surface admit light into each room. Average distance of pupils from blackboards, etc., 10 to 12 feet. No opportunity for exercise under shelter, nor provision for drying wet clothing. Grounds are cleaned annually. Various patterns of double desks in use, but none are satisfactory.

Irving:—Situated on Payson avenue, between 8th and 9th streets. Area of lot, 19,200 square feet; of building, 5600 square feet. Good natural drainage. Building of brick; erected in 1864; cost, $10,550. Two stories, containing eight rooms, used for scholars; capacity, 60 each; no basement. Rooms heated by wood stoves, consuming 40 cords of wood annually. No sickness is traceable to variations and extremes of temperature. Ventilation is effected by raising and lowering of windows. No privies or water-closets in the building, but there are two in the rear of lot. Water is supplied by two wells; quality good. About 120 square feet of surface admits light to each room. Average distance of pupils from blackboards, etc., 10 to 12 feet. No opportunity for exercise under shelter, nor provision for drying wet clothing. Play grounds are cleaned annually; but few shade trees. Andrews "Triumph" desk is used, and is satisfactory.

Jackson:—Situated on corner of 8th and Vine streets Area of lot, 28,000 square feet; of building, 2850 square feet. Good natural drainage; clay soil covered with gravel. Building of brick; erected in 1860; cost $11,873. Two stories, containing four rooms, for use of scholars; capacity, 60 each. Rooms are heated by wood stoves consuming about 21 cords of wood annually. Some sickness is traceable to variations and extremes of temperature. Ventilation is effected by raising and lowering of windows. There are no privies or water-closets in the building; but two in back yard. Basement is used for storing fuel, and is ventilated separately from rest of building. Water is supplied by two cisterns; is abundant and quality good. About 132 square feet of surface admit light into each room. Average distance of pupils from blackboards, etc., 10 to 12 feet. No opportunity for exercise under shelter, and no provision for drying wet clothes. But few shade trees in the yard. Double desks of various patterns are in use; none satisfactory.

Lincoln:—Situated on 10th street, between Spring and Oak. Area of lot, 14,400 square feet; of building, 2304 square feet. Good natural drainage; clay soil. Building of brick; erected in 1872; cost $6,279.50. Two stories, containing four rooms, used for scholars; capacity, 60 each. No basement. Rooms heated by wood stoves, consuming about 25 cords of wood annually. Some sickness is traceable to variations and extremes of temperature. Ventilation is effected by raising and lowering of windows. There are no privies or water-closets in the building; two in the back yards. There is no basement. Water is supplied by two cisterns: quality is good. About 240 square feet of surface admits light to each room. Average distance of pupils from blackboard, etc., 10 to 12 feet. There are no opportunities for exercise under shelter, nor provision for drying wet clothing. Double desks of various patterns in use, and are satisfactory.

Madison:—Situated on corner 25th and Main streets. Area of lot, 25,920 square feet; of building, 1575 square feet. Good natural drainage; clay soil. Building of brick; erected in 1860; cost $1,000. One story, containing two rooms for use of scholars; capacity, 50 each. Rooms are heated by wood stoves consuming about 10 cords of wood annually. Some sickness is traceable to variations and extremes of temperature. Ventilation is effected by raising and lowering of windows. There are no privies or water-closets in the building; two in the back yard. There is no basement. Water is supplied by two cisterns; is abundant and quality good. About one hundred square feet of surface admit light into each room. Average distance of pupils from blackboards, etc., 10 to 12 feet. No opportunity for exercise under shelter, nor provision for drying wet clothing. Grounds and privies cleaned annually. Double desks of various patterns in use, but not satisfactory.

Washington:—Situated on corner Sixth and Cherry streets. Area of lot, 14,400 square feet; of building 2304 square feet. Location rather unhealthy on account of neighboring ravine. Good natural drainage; soil clay. Building of brick; erected in 1868; cost $7,919. Two stories, containing four rooms: capacity, 60 scholars each. Rooms are heated by wood stoves and consume annually about 25 cords of wood. Some sickness is traceable to variations and extremes of temperature. Ventilation is effected by raising and lowering of windows. No privies or water-closets in the building; two in the back yard. There is no basement. Water is supplied from two cisterns; quality good. About 240 square feet of surface admit light into each room. Average distance of pupils from blackboards, etc., 10 to 12 feet. No opportunity for exercise under shelter, nor provision for drying wet clothing. Grounds and privies are cleaned annually. Double desks in use and are satisfactory.

Webster:—Situated on corner 12th and Main streets. Area of lot, 130,000 square feet; of building 6084 square feet. Good natural drainage. Building of brick; erected in 1881; cost $20,000. Three stories, containing 15 rooms for use of scholars; capacity, 60 each. Rooms are heated by steam, consuming about one hundred tons of soft coal annually. No sickness has been traced to variations or extremes of temperature. Ventilation is effected by raising and lowering of windows. No privies or water-closets in building; two sets in the back yard. Basement is used for residence of janitor, storing fuel and for heating apparatus. It is ventilated separately from rest of building. Water is supplied by two cisterns; quality good. About 120 square feet of surface admit light into each room. Average distance of pupils from blackboards, etc., 10 to 12 feet. No opportunity for exercise under shelter; no provision made for drying wet clothing. Grounds and closets are cleaned annually. Andrews "Triumph" desk is used, and is satisfactory.

Sanitary Survey of Litchfield.

Compiled by H. H. Hood, M. D.

Location, Population and Climate.—Litchfield is in the western part of Montgomery county, a little south of the east and west centre; 43 miles northwest of St. Louis and 210 miles from Chicago. Latitude 39° 15′ N.; longitude 89° 40′ W. The city was founded in 1854 and incorporated in 1859.

The population in 1860 was 1,587; in 1870 it was 3,852; in 1880 it was 4,357. Present estimated population about 5,000, of which 615 are under 6 years of age.* There are in round numbers about 3,500 natives, including 100 negroes and mulattoes and 1,500 foreign born including 1 Asiatic. No meteorological observations have ever been recorded.

Topography.—The surrounding country is level. No marshes or low moist lands. There are farms on the north, south and west, and forests on the east. Site of city is level. Original conformation of site has not been materially changed. Average elevation above sea-level is 632.5 feet. General surface slope is southeast, west and northwest. No "made land." No streams of water pass through the city. Total area of the town about 1,800 acres; of this 740 acres are south of the I. & St. L. R. R. and constitute the 1st ward, 680 acres lie north of said road and east of State street and constitute the 2d ward, and 480 acres lie north of said road and west of State street and constitute the 4th ward. There are 800 acres of farming land in the town.

There is a reservoir of water one-half mile from the city which covers 24 acres. No part of the city or vicinity is subject to overflows or saturation of soil. There are no surface rocks. Surface soil is black loam. Malarious effects have been observed when the surface soil was disturbed. There are continuous gravel streaks in the earth through which soil water may flow. No diseases are believed to be due to the soil or geological formation.

Water Supply.—Water for domestic use is derived from wells; for other purposes from an artificial pond, supplied by a natural watershed. Most of the immediate gathering ground from which the water is drained is under cultivation and is to some extent manured from barn yards; no night soil is so used. Water is brought 1 mile in iron pipes. Capacity of pipes is 10 inches. Water is accumulated in a reservoir which is outside of city, and distributed by the Holly system. No process of filtering or purifying other than settling is used. Supply is ample for all uses, including fire. Water is free from organic matter. There is 1 public fountain. There are 30 fire plugs. No artesian wells used. Well water in universal use. Wells are sunk through black loam and yellow clay to the depth of 20 feet. Cisterns are free from cesspool and privy contamination. Wells are not free from cesspool and privy contamination except in outer part of city. In center of city are numerous privies the contents of which may easily reach the sand stratum in which is found the water supply. Sickness among children and strangers has been attributed to the use of this water. Well-water contains lime, chlorides, ammonio-albuminoids, and nitrates. No disease has arisen from the use of lead pipes. There are no public baths, no public drinking fountains.

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*This is obviously an overestimate. The population increased in the decade from 1870 to 1880 from 3,852 to 4,357, which is 13.1 per cent. At the same rate for five years the increase would be 285, making the population 4,632 on June 30, 1885. This agrees more nearly with the number (615) under 6 years of age—the only actual figures given. In the same proportion as given in the report, there would be 3,242 native born and 1,390 foreign born.

Drainage and Sewerage.—Area included within city limits 1750 acres. Area closely built up 600 acres. Surface drainage not good. No underground drains have been constructed. Cellars are liable to overflow in heavy rains. There is no system of sewerage in the town.

Streets, Alleys and Public Grounds.—The streets are 40 feet wide; sidewalks 6 feet. Streets do not differ in healthfulness or comfort owing to direction. Streets and sidewalks are not paved. Total length of streets is about 40 miles. Character of soil is black loam. Streets are unduly wet in the spring of the year. Streets are high in middle, with a ditch on either side. There are no regular arrangements for cleaning the streets. They are sprinkled in summer in business part of town. Shade trees, mostly soft maple, are planted on outer edge of sidewalk. Trees have no direct effect upon health; are cared for by property owners. No portion of the sidewalk or roadway is laid down in grass. Alleys are 20 feet wide. Deposits of ashes, manure, garbage, etc., forbidden in alleys. Rubbish is removed at expense of property owner. There are 2 public parks within the city limits, each containing one-half acre. They are kept in good condition. One park contains a public fountain. There are no public urinals in streets or in parks. There is no source of amusement provided in the parks. Railroad crossings within the city are not dangerous, and no accidents have occurred from this cause during the last 5 years.

Habitations.—There are about 1000 dwelling houses within the city limits, of which one-half are inhabited by the owners. Average occupancy of each dwelling is five. There are no tenement houses. Construction of houses is not regulated except within fire limits. No houses have been condemned within the last year. None are connected with sewer. None have either springs, cisterns, wells, or privies in the basement or cellar. Nine-tenths of the dwelling houses are isolated buildings, with sufficient yards or clear space all around them. A few houses have special arrangements for ventilation by flues. Some houses that have neither basements nor cellars are properly raised from the ground and suitably arranged for sub-ventilation; many are not so arranged. Cellars in some parts of the city are damp and insufficiently drained. Very few habitations are furnished with proper bathing facilities. Neither fuel nor ashes are deposited in cellars. No diseases have occurred which seem to be due to over-crowding or unfitness of dwellings or bad condition of cellars. The fuel used does not seem to influence health. Ground under basement floors is not usually cemented.

Gas and Lighting.—City is not lighted by gas. No precautions are taken to ascertain the grade, and no restrictions exist on the sale, of coal oil or kerosene, etc. No accidents have occurred from explosions of these fluids within the last 5 years. [Since the Survey was compiled natural gas has been utilized to some extent, about 400 families using it for lighting and fuel.]

Garbage and Excreta.—No law exists regulating the removal of garbage. Dead animals are hauled outside city limits and no complaints have been made concerning this disposal. There are no houses of which the kitchen and laundry waste-water is delivered into cesspools on the premises. There are no water-closets. Privy vaults are neither water-tight nor connected with public sewers. No regulations and methods exist with regard to constructing and cleaning such vaults. No cases of contamination of wells or cisterns by privy or cesspool drainage have been reported, although such contamination is suspected. Dry-earth system is not much used.

Markets and Food Supply.—Markets are established by law. There is one public market, in which is one stall for the sale of meat. Stalls are rented. Market is open every day during business hours. The building is public property and a source of revenue to the city. There is no system of inspection of markets. The supply of fresh meat is abundant and good. No meat has been condemned within the last year. Meats and vegetables are brought to market by wagon and by railroad from all distances. About half the fowls are sold to consumers alive. No fruits and vegetables have been condemned within the last year. No municipal regulations with regard to hucksters or peddlers, except an ordinance requiring a license to sell butchers' meat. Fruits and vegetables unfit for use are not allowed to be sold. No sheds or stands are provided for producers. Market gardeners are allowed to sell direct to consumer without being subject to any tax, but very few of them sell direct. Milk supply is from cows, fed in winter on hay, chopped feed and bran and in summer on grass. No distillery swill or glucose refuse used. There have been no cases of poisoning or acute disease caused by unwholesome articles of food. State laws concerning adulteration of food, etc., not enforced. Oleomargarine and analogous substances not sold as butter.

Slaughter Houses and Abattoirs.—Animals for the city markets are obtained from an area of from one to fifty miles of surrounding country. There are annually slaughtered for city use, about 1300 cattle and 1500 hogs, besides calves and sheep; and for packing and shipment, about 1000 hogs. Animals are driven to place of slaughter. The flesh of hogs not fed for 24 hours before killing will shrink in cooking. Animals are slaughtered by axe and knife. Slaughter houses are erected at private expense. Slaughtering and packing are forbidden in city limits. But one packing house exists. Blood and offal are removed from the city. Business is scattered in small establishments located beyond city limits. Packing house drains into open sewer, which flows through a part of city. Is not complained of as a nuisance. Fat is rendered and tallow is sold to dealers. Some blood is made into pudding, but most of it falls on the ground. Animal refuse is fed to hogs kept for the purpose. Rendering of animal refuse is not commonly done on the day on which animals are slaughtered. Ice is employed in cooling the meat.

MANUFACTORIES AND TRADES.—There are no manufacturing establishments within the city limits, or in the suburbs, which are nuisances. Such are restricted by local ordinances. Neither women nor children are employed in manufactories.

HOSPITALS AND PUBLIC CHARITIES.—There is one hospital, St. Francis, of 12 beds, under charge of Sisters of Charity. This is sufficient for wants of city. There are no free dispensaries. No physicians are employed by the city for the poor.

POLICE AND PRISONS.—Police organization consists of a city marshal and two night policemen. These act as inspectors of nuisances. There is a temporary lock-up, containing 2 cells. No privy or water-closet arrangements. Cells are about 8x12 feet each. Heated by a stove in another room. Diet allowed prisoners is good and plentiful. Eleven places exist in city at which intoxicating drinks are sold to be drunk on premises. Sixty cases were brought before magistrates or police courts during the last year for drunkenness. Municipal law fixes license at $500, and closes all places of sale at 11 o'clock p. m.

FIRE ESTABLISHMENTS, ETC.—There is a volunteer fire establishment, consisting of superintendent, 1st and 2d assistant engineers, secretary and treasurer, and such other subordinates as are required. There are 2 hook and ladder and 3 hose companies. Water supply for fire purposes is obtained from reservoir at water works. Is abundant and is distributed by the Holly system. Fire extinguishers are not in general use. Fire department employs 100 persons; annual expense $855. No loss of life from fire in past year. Loss of property from fire in past year, $6,000. The storage of gunpowder, nitro-glycerine, dynamite and coal oil is forbidden. There are no municipal regulations to insure complete inspection of illuminating oils. Buildings within fire limits must be made of brick and must be roofed with metal. State law requiring doors of public buildings, churches, school-houses, theatres, halls, hotels, etc., to open outward is only partially complied with.

CEMETERIES AND BURIALS.—There is one cemetery within the city limits in which interments are made. There are two Catholic cemeteries and one Lutheran cemetery near the city. It is not believed that subsoil drainage from land containing graves contaminates springs, wells, or water-courses. Average depth of grave is 4½ feet. Soil is black loam over yellow clay. Soil is dry at depth at which body is placed. No vaults are used. No nuisances or evil effects have been observed from the cemeteries. No ordinance exists concerning any extra precautions to be taken with regard to burial of persons dying of contagious diseases, and no such precautions are taken except in times of excitement. There is no receiving vault. No burial permits are required.

PUBLIC HEALTH LAWS, REGULATIONS, SANITARY OFFICIALS.—The local board of health consists of the police committee of the city council, of which committee the mayor is chairman. It exercises authority within city limits. Number of members, 4; term of office, 1 year; no salary. There is no physician on the board, and no executive officer except the chairman. Meets quarterly or oftener. Powers are limited by ordinance; has no authority to make ordinances, but may enforce them at any time. Has authority to abate nuisances; takes cognizance of defective house-drainage when it becomes a nuisance; may abate any nuisance. Has authority to isolate small-pox patients; may remove them to hospital. No requirements concerning vaccination. May destroy infected clothing. No vital statistics recorded in the city.

REGISTRATION AND STATISTICS OF DEATH AND OF DISEASE.—Burials are made without record of death or permission granted by health authorities. No local system of registration of causes of death in force. Cholera was epidemic in the city in 1867—8 cases and 2 deaths; again in May to September, 1873, about 45 cases and 30 deaths. Small-pox was epidemic from January to March, 1882; diphtheria in the spring and autumn of 1875.

MUNICIPAL AND SANITARY EXPENSES.—The sum of $425 was expended by the city for construction and care of public parks during fiscal year ended June 30, 1885. Total municipal expenses during the year were $20,061.21. Street cleaning, removal of ashes, garbage, etc., is done in a small way, the expense being defrayed out of the general street fund.

PUBLIC SCHOOLS.—Total number of public scholars registered, 1005. Average attendance was 850. There is one high school. There are three of first grade, two of second, third, fourth, fifth, sixth, seventh and eighth grades. Programme for each school day: 9 a. m., singing; 9:10, arithmetic; 9:40. language; 10:05, geography; 10:30, recess; 10:45, spelling; 11:00, reading; 11:30, writing. Pupils under 8 years of age are confined in room 4½ hours; to the seat without change, 30 minutes. Experience is in favor of two sessions a day, with one long intermission. Classes during recitations stand part of the time and sit part of the time. School hours are from 9 a. m. to 4:30 p. m., with 30 minutes recesses and 1½ hours at noon. Exercise in open air is compulsory. Competition is a feature in system of instruction, but no prizes are awarded. Different methods of correction are used with different temperaments. There are no conditions of admission to schools with reference to vaccinal protection. Superintendent is instructed to dismiss from school all pupils from families in which contagious or infectious diseases are prevailing. About 10 per cent. of absence of pupils is due to sickness.

The school buildings are in the 1st and 3d wards; the lot in 1st ward is 150x234 feet, fronting on a 99-foot street, with 60-foot streets north and south; soil black loam, underlaid with yellow clay. Drainage not good. Brick building, erected in 1884; cost $6,000. There are 4 rooms, each seating 64 pupils. The 3d ward lot contains $1\frac{3}{8}$ acres, surrounded by 60-foot streets. The location is good. Material of building is brick. There are 11 rooms. Each will seat 64 pupils. Erected in 1872. Cost, $5,000. Heated by Ruttan furnace and steam radiators. Temperature of room is kept at 70 degrees, as nearly as possible. No sickness traceable to variations or extremes of temperature. Fuel consumed annually by the two buildings is 4800 bushels of coal. Rooms are ventilated in winter and summer by flues, and this means is satisfactory. Privies are distant from buildings. Boxes are used, to be emptied when necessary. Basements are used for storage of fuel and water-filters and coolers. Basement is ventilated separately from rest of building. In the first ward a well is used. In third ward reservoir water, filtered and cooled with ice, is used. Reservoir water is good. Well water is open to suspicion. Rooms are sufficiently lighted. Number of square feet of surface through which light passes into each room by windows is: In first ward, 128 square feet; in third ward, 200 square feet. There are opportunities for pupils to exercise sheltered from cold, heat, or wet, and without exposure to air contaminated by privy or water-closets. There are opportunities for drying clothes when wet coming to school. Desks are satisfactory.

SANITARY SURVEY OF CANTON.

By T. F. BARNARD, M. D.

LOCATION, POPULATION AND CLIMATE.—Canton is situated in the northeastern part of Fulton county, 210 miles southwest of Chicago, at the junction of the Chicago, Burlington and Quincy, and the Wabash, St. Louis and Pacific Railroads. The city was founded December 10, 1825. Village charter granted February 17, 1837; city charter, February 12, 1853.

Its present population by census just completed is 4,632, of which 1,000 are estimated under five years of age. Estimated number of foreigners about 20 per cent. There are 30 negroes and mulattoes and one Chinaman.

Thermometer observations have been regularly recorded in the city for 30 years.

TOPOGRAPHY.—Country surrounding the city is rolling, with no considerable hills, bluffs or mounds, marshes or low moist lands in the vicinity. No forest; the city is surrounded by grass lands, etc. Site of the city rolling. Original conformation of the site not materially changed, and no great changes in the original water-courses. General surface slope of the city is to the southwest. No "made land."

Two streams of water pass by the city, known as the Big and Copperas creeks; average width of each about 20 feet; average depth two feet: rapid current; steep sides; exposed shore is hard ground. The Copperas is clean; Big creek receives discharge from gas works. The sewage of the city is indirectly discharged into Big creek through ravines that extend toward the city. No stagnant water anywhere, owing to rolling nature of ground.

The site and vicinity belong to the silurian period. Surface rocks are bastard lime, and sand stone. Underlying strata in order of succession from above downward, are earth, clay, sand, sandstone, shale, soap-stone, coal, fire-clay. Surface water is quickly absorbed. The strata are much broken. No regular dip or angle. The coal seams dip in every direction. The surface soil is black loam. When the surface soil is disturbed no malarious effects have been observed.

Water Supply.—The city water supply is from an artesian well 2,500 feet deep. Pumped from this into a tank 89 feet high; thence is distributed by gravity. The immediate gathering ground from which the water is drained is covered with scattering dwellings. No privy vault within 100 feet. The water supply has never been offensive in taste or odor, at any time. There are 23 fire plugs.

In addition to the artesian water, dug wells and cisterns are used for domestic purposes. Usual depth of wells to the bottom 20 feet; average five feet depth of water. The cisterns and wells are so located and constructed as to be free from cesspool and privy contamination.

Drainage and Sewerage.—Area included within the city limits about 960 acres; of which about 640 are closely built up, as compared with what may be called country or suburban areas. The character and sufficiency of the surface drainage is good; generally by gutters along the streets. There are a few cellars liable to an overflow of water in heavy rains and to the intrusion of soil water.

There is a regular system of sewerage, having at present three outlet sewers discharging into Big Creek; diameter of outlet sewers at mouth 12, 24 and 30 inches; constructed of vitrified pipe, tightly cemented, and shape in cross section round. Kept fairly clean by their own flow. Can be flushed from man-holes when necessary. About one-half the area of the city is sewered, and two-thirds is drained by tiles on each side of street. All of this area is built upon.

Total length of subsidiary sewers discharging into the outlet sewers, 6,000 feet. These are made of 9 to 18-inch vitrified pipe, cemented. The surface drainage passes into the sewers wherever these are laid. Their capacity is sufficient in heavy storms. No attempt made to utilize the sewage. The sewers are ventilated through grated man-holes. S and U traps are required to be put in the course of the connecting drain outside of house, with ventilating shaft.

It is not compulsory that all house drainage be conveyed to the sewer, but tile drains are used wherever sewers are not built, and a few cemented pipe lines have been laid by private individuals. No odors are ever perceptible from the sewer openings or outlets.

Streets, Alleys and Public Grounds.—General width of the roadway of the streets, 66 feet. General width of the sidewalk, 8 feet. The sidewalks are of wood. The streets are not paved and the soil of the roadway is black loam and clay. The streets are never unduly wet in the spring of the year. Roadways constructed with a grader, leaving good gutters. About two-thirds are underdrained.

Streets are in charge of the street and alley committee; work done by the supervisor. Sprinkling in business portion by private subscription. The results are satisfactory as to cleanliness of the streets.

Shade trees are planted along the outside of sidewalks in straight rows; maple and elm. These are cared for by individual property owners. A strip, laid down in grass and about five feet wide, separates the sidewalk from the roadway.

General width of alleys about 16½ feet; deposit of ashes, manure, garbage, etc., in alleys is not allowed. Property holders are required to clean their alleys.

There are two public parks, one in centre of square, 334 by 100 feet, and the other 350 by 350 feet, also within city limits. These are kept in good condition under charge of a committee of the council.

There are watchmen or gates at all railroad crossings within the city, and no lives lost at these places during the last five years.

MARKETS AND FOOD SUPPLY.—There are seven private markets, or grocery stores, in which meats, fish, vegetables and fruits are sold. They are under no supervision. The supply of fresh meat, as to quantity, quality and variety, is first-class, and of the usual varieties. There are several market gardeners who deliver by wagon.

Nearly all fowls are brought and sold to consumers alive, except during winter. The supply of vegetables and fruits, as to quantity and quality, is adequate and first-class. The supply, except of foreign fruits, is derived from the immediate vicinity of the city.

There are no municipal regulations with regard to hucksters or peddlers, to private markets, or to hawking of fruits, etc., in the streets; but producers of vegetables, etc., *i. e.* the market gardeners, sell direct to the consumer without being subject to any tax.

There are several dairies and many private cows, all fed on grain and pasture. It is not known that any oleomargarine or any analogous substance, or any admixture thereof, is sold as butter.

SLAUGHTER HOUSES AND ABATTOIRS.—Animals are obtained for the city markets in the immediate vicinity and are driven to the places at which they are slaughtered. The slaughter houses are all private, are all small ones, and located beyond the city limits. They are not considered as nuisances in the neighborhood. Meats are cooled in ordinary ice-chests.

MANUFACTORIES AND TRADES.—There are no manufacturing establishments within the city limits or in the suburbs which are nuisances in any respect. The hours for labor in factories are from 7 a. m. to 12 m. and 1 to 6 p. m. No children are employed in factories, but the cigar factories employ many girls and young women, the youngest about 14. Such employment is not known to affect their health only very exceptionally.

The cubic space and ventilation in the rooms occupied by workpeople are generally satisfactory, as are also the arrangements for privies in these establishments.

FIRE ESTABLISHMENTS, ETC.—The fire establishment is volunteer, and consists of two hook and ladder companies and three hose companies, with 36 volunteer members. The water supply for fire purposes is obtained from the water-works and cisterns, and is abundant. Hand grenades are provided as fire extinguishers.

The annual expense of the fire establishment is $2,000. The loss of property from fire in the past year was $5,000. No fires in the past year from the use of dangerous and unfit fluids for lighting purposes, but one through carelessness.

The storage of gunpowder, nitro-glycerine, dynamite and coal oils is regulated by ordinance. The State law requiring the doors of public buildings, churches, school-houses, theatres, halls, hotels, etc., to open outward, is generally complied with.

Habitations.—About 75 per cent. of the dwelling houses within the city limits are inhabited by the owners. No regular tenement houses; and no houses are over-tenanted. Within the fire limits houses are required to be built of brick; no regulations outside. Two houses have been condemned within past year as unfit for habitation for sanitary reasons; general filthy condition and dilapidation. They are within the fire limits and repairs not allowed. About 30 houses are connected with the sewers, all with tight drains, suitably trapped. A few—not over 20—houses have cisterns or wells in the basements or cellars for water supply, but none with privies in the cellars or basements.

All dwelling-houses are isolated buildings, with sufficient yards or clear space all around them. Houses that have neither basements nor cellars are properly raised from the ground and suitably arranged for sub-ventilation. A few cellars and basements are damp or insufficiently drained, owing to carelessness of the owners. Except business houses which use the space under sidewalk, no cellars are used for storing fuel, and no ashes or other sweepings from houses are deposited in cellars. Buildings generally 20 feet high; streets 66 feet wide.

Gas and Lighting.—City lighted by gas. Gas works located outside of city limits, northwest of city, on Big creek; are not a nuisance to neighborhood; purification is by dry lime and is satisfactory; refuse is used to fill around works. Gas furnished to city at $2.50; to private consumers at $3.00 per thousand. Quality of gas furnished is satisfactory as to illuminating power, odor, etc. All the streets are lighted. About 25 per cent. of the dwelling houses are lighted by gas.

No precautions are taken to ascertain the grade, and no restrictions exist on the sale, of coal oil or kerosene, etc. No accidents have occurred from explosions of these fluids within the last 5 years, nor from explosions of gas.

Garbage and Excreta.—The law as to the removal of garbage is complied with reasonably well. Garbage, ashes, etc., are removed by the corporation employés at the expense of the corporation. Ashes are spread on streets. Garbage is taken outside of city limits. Garbage and refuse are destroyed by fire by the householder in nearly every dwelling. Dead animals are either buried or sent to rendering tanks, and this manner of disposal is satisfactory.

There are no houses of which the kitchen and laundry waste-water is delivered into cesspools on the premises. Absorption drains under the surface of the soil are used largely for cellars and lot drainage.

There are but 2 or 3 houses in the city which have water-closets; all others depend wholly on privy vaults. None of these are water-tight. There are no regulations and methods with regard to constructing and cleaning such vaults. None of them are connected with the public sewers. The dry-earth system is not used at all.

Police and Prisons.—The organization of the police force consists of a city marshal, elected and policemen appointed by the board upon the marshal's recommendation. There are eleven policemen and one marshal. The latter acts as inspector of nuisances, when such are reported to him. There is a night patrol of two men.

One temporary lockup or station house. The sexes are confined in the same institution in different cells. The air space per head and ventilation are good. Ventilation secured by grated doors. Dimensions of the cells for single prisoners 8 x 8 x 7 feet. Vagrants are not kept separate from the prisoners. The privy arrangement is a cast-iron seat connected with sewer. No water-closet.

There are no licensed places in the city at which intoxicating drinks are sold to be drunk on the premises. Sixty cases were brought before magistrates or police courts for drunkenness during the year.

Cemeteries and Burial.—There are two cemeteries—one Protestant and one Catholic—within the city limits, and interments are now made in them. These contain about 5,000 graves in all. The average depth of the grave is 4 feet, in a clay and gravel soil. There is no reason to believe that the sub-soil drainage from land containing graves contaminates springs, wells, or water-courses. The soil is dry at the depth at which the body is placed.

There is only one vault, built of stone. Have removed bodies after 10 years burial; bones still perfect. No nuisances or evil effects have been observed from the cemeteries.

Burial permits are not required, but application is made to the superintendent.

Public Health Laws, Regulations, Sanitary Officials.—There is no organized board of health or municipal health organization.

Municipal Sanitary Expenses.—The total amount of money appropriated by the city for sanitary purposes for the last fiscal year ended June 30, 1885, was $2,100, expended by the city, and $1,500 estimated expenditures by individuals. For construction and care of public parks and the cemetery there was expended by the city $150.

Public Schools.—The total number of scholars registered at public schools is 896, with an average attendance of 714. The schools are graded and consist of 7 primary, 4 intermediate, 1 grammar and 1 high school.

The division of time for the studies, recitations, recesses and intermissions is as follows: Primary recitations 15 to 20 minutes, others 30 to 45 minutes; recesses 15 minutes, morning and afternoon; intermission one and one-half hours at noon. Pupils under eight years old are confined to room from 9 to 11:30 a. m. and 1:30 to 3 p. m. Seats are changed every 15 or 20 minutes. They favor two sessions a day with one long intermission.

Classes stand or sit during recitation as convenience dictates. Nothing known of lessons studied outside of school hours. Such would not be approved, except music and other special studies. No holidays during term except Saturdays, Christmas week and last week in March. Exercise in open air is compulsory when weather will permit.

Different classes and both sexes compete for the same prizes and study and recite together. As a last resort only is corporal punishment inflicted.

Vaccination is required before admittance can be had to any of the schools. This condition was first instituted about five years since and is strictly enforced. No case of small-pox has occurred, since enforcement of this condition, among the school children and nothing is known of any previous cases. The same is true of the teachers.

Attendance of scholars from families in which contagious or infectious diseases are prevailing is prohibited, and enforced by the laws of the district. Ninety per cent. of absence of pupils is due to sickness, arising largely from colds. There are no statistics respecting the illness and death of teachers and pupils. None of the diseases enumerated in the Schedule is known to have been affected by school attendance except a few cases of whooping-cough and measles.

In a sanitary point of view two-story buildings are preferred and not over 500 in one building. Don't know of any cases of short sight owing to defective light, nor of spinal curvature owing to improperly constructed desks and seats.

Location of primary and high school on South Main street, 3 blocks from square; no objectionable surroundings; site 10 feet higher than street; drainage, good; soil, black loam; building, brick and frame; was erected in 1860; cost $15,000 to $20,000; three stories high, containing five school and three recitation rooms. Capacity of school rooms are: Upper high school, floor space 2,262 square feet, light space 248 square feet; grammar department, floor space 1,254, light space 97; 2d intermediate department, floor space 924, light space 60; 1st floor intermediate, floor space 1,254, light space 50; 1st floor intermediate, floor space 1,254; light space 80. Capacity of each recitation room is: 1) floor space 190 square feet, light space 46 square feet; 2) floor space 247, light space 36; 3) floor space 247, light space 30. Building heated by 3 hot-air furnaces.

There is one frame building for primary department, built in 1860; is deficient in light, to remedy which gas has been lately put in. Has two rooms with floor spaces of 550 square feet each; light spaces 72 and 54 square feet respectively.

Temperature of school rooms is kept at about 70° in the cold season. No record of external temperature. No sickness traceable to variations or extremes of temperature except colds.

School rooms ventilated in winter by registers near floor; in summer by raising and lowering windows; is satisfactory. Privies are frame and brick buildings 90 and 200 feet from school buildings; brick vaults beneath; not very satisfactory. It is proposed to change them so that they can be flushed and cleansed frequently. Basement of school building is used for storing coal. Has a separate ventilation.

Water supply from well, and abundant. The water has never been analyzed but is considered good.

Rooms are sufficiently light except on dark days. Pupils during recitations are near to blackboards, charts, maps, etc., from which they are expected to read letters or figures.

No opportunity for pupils to exercise except in the open air, subject to cold, heat and wet. No exposure to contaminated air. Opportunity is had for drying clothes when wet on coming to school.

There are also buildings in the first and fourth wards. They were built in 1867, of brick, 4 rooms each, stories about 11 feet high. They are fairly lighted. Rooms have floor space of 720 square feet, with light space of 90 square feet each. Playground of first ward is 170x200, of fourth ward 132x200, of high school 334x350 feet, respectively. Grounds are kept in good order.

Desks used are the Automatic, furnished by Union School Furniture Co., of Battle Creek, Mich., and Andrews' folding desk, of Chicago; the former satisfactory, the latter needing some repairs and requiring more floor space.

SANITARY SURVEY OF MORRIS.

By P. A. Armstrong, Esq., President Board of Health.

Location, Population and Climate.—Morris, Grundy county, is on the Illinois and Michigan canal and the Illinois river, 12 miles below the confluence of the Kankakee and the Des Plaines rivers, which form the Illinois; and is 62 miles southwest of Chicago. The town was founded in 1843, incorporated under a special charter in 1857 and reorganized under the general incorporation act in 1877. Population in 1870 was 3,251; in 1880, 3,486. The present estimated population is a little over 4,000. Estimated population under 5 years of age about 540. About two-thirds of the population are native born, one-eighth Irish, one-ninth German and the rest are English, Scotch and Scandinavian. Estimated number of European birth one-third. Negroes number 50; Asiatics none. No meteorological observations have ever been taken in Morris.

Topography.—The country immediately surrounding the town is flat and to some extent marshy. There are low bluffs north and south, distant three-fourths of a mile, skirting the Illinois river. There is a large marsh a half mile northeast of the city but it is now being drained into Nettle creek, under the direction of the city board of health.

The Illinois river passes from northeast to southwest on the south side of the city. The Illinois and Michigan canal runs parallel to the river and between it and the city.

The city is bordered on the southeast and northwest by forests. Very little grass lands in vicinity but numerous gardens.

The site of the city is undulating, with general trend to the south and west. It is about 60 feet lower than Lake Michigan and about 515 feet above the sea level.

The Illinois river at Morris is 600 feet wide; the canal 90 feet wide; Nettle creek 20 feet wide, and Mazon creek 50 feet wide. Velocity of Illinois river 2 miles per hour. The banks of the river and creeks are low and in times of heavy rains are subject to overflow. Exposed shore ground of river hard; of creeks soft. Overflows are of short duration. The river water is affected by Chicago sewage entering it through the canal. Aside from this the river and its shores are not subject to deposit of organic matter or of silt. No shoal or flat in the river; in the creeks there are several. No natural or artificial falls of water within or near the city. In times of overflow and heavy rain the height of the water in wells is materially increased, often filling them.

The city is underlaid with bituminous coal. The rock is bastard limestone, with some sandstone. Surface rocks are mostly bowlders from the glacial period. The underlying strata, in order of succession from above downward, are: Loam, blue clay, sand, shale coal, white clay, lime rock, etc. The slope or dip of the strata is northwest and quite irregular. Surface soil is loam and in some places sandy. There are many continuous fissures in the rock and gravel streaks in the earth through which the soil water may flow.

Water Supply.—The chief source of water supply is from wells drawn by pumps. There are several artesian wells; one sunk by the city supplies a large number of people. The immediate gathering ground from which the water is drained is contaminated very little, if any.

The artesian water from the city well is taken north and south in iron pipes half a mile each way on the main street. Public hydrants are put in at some eight or ten points and drinking troughs for horses. The pipes are one and one-half inches in diameter. There are several cisterns distributed over the city to be used in case of fire.

No chemical analysis of the water has ever been made. Water has never been offensive. Water from the artesian wells is pretty generally used. These wells are from 360 to 850 feet deep. The latter is the best water; it is very pure and free from organic matter. Some of the other artesian wells are impregnated with sulphur. There is no chance of organic contamination reaching the strata by which such wells are supplied.

Ordinary well water is largely used for drinking and culinary purposes. Character of soil in which these wells are sunk is loam. Usual depth of wells 30 feet to bottom, 25 to top of water. Wells and cisterns are so located and constructed as to be free from contamination from cesspool or privy. When a privy is found to be within 50 feet of a well it is cleaned out and closed up. The use of well water has not been productive of sickness; it is pure and good, though very hard.

There are no public fountains or baths. There are 8 or 10 drinking fountains along the line of piping from the artesian well.

Drainage and Sewerage.—The area included within the city limits is about 700 acres on sections 3, 4, 9 and 10 in T. 33 N., R. 7 E., 3d P. M. About 400 acres is more or less built over.

The character and sufficiency of the surface drainage is only fair. Underground drains have been constructed to some extent, but not generally. The cellars in one block of the city are liable to an overflow of water in time of heavy rain.

There is no regular system of sewerage, but some work has been done in that direction. There are half a dozen outlet sewers or drains that discharge into Nettle creek and the canal. They are of various sizes and are constructed of stone, not tighly cemented but covered with earth. They are kept comparatively free of deposits by their own flow and are generally provided with iron screens to prevent obstructions. Perhaps one-third of the city is not sewered, but the whole of this area is not built upon. Length of subsidiary sewers discharging into outlet sewers is estimated at 5 miles. They are about 20 inches square. Surface drainage passes into sewers. Capacity considered sufficient. The sewers are not ventilated. There are no regulations concerning the drains which connect houses with the sewers, except that traps are required in the course of the connecting drain, and it is compulsory that all house drainage be conveyed to the sewer at the intersection of open drains with the covered ones. Odors are perceptible to a considerable degree from the sewer openings or outlets.

Streets, Alleys and Public Grounds.—The general width of streets is 80 feet, and of sidewalks 8 feet. Sidewalks are as a rule of plank, but some are of brick or stone flagging. Length of streets unpaved, about 20 miles. Character of soil, sandy loam. Streets are never unduly wet. Roadways are graded, but there is little under-drainage. There are about ten miles of wooden sidewalks; three miles of cobble-stone or blocks; about one mile of stone and gravel roadway, and one-half mile of McAdam. Only a small portion of the streets are watered, and that at private expense. The city authorities see to the cleaning of streets and alleys with satisfactory results.

Shade trees, of soft maple, box-elder, elm, catalpa and others, are planted along the outer edge of sidewalks. Gas does not seem to injure the trees, nor is it thought that the trees have any direct effect upon health. Trees are cared for by individual property owners. No portion of the sidewalks or roadways is laid down in grass. Width of alleys, 14 feet. The deposit of ashes, manure, garbage, etc., in alleys is prohibited by ordinance. Alleys are cleaned of all rubbish under charge of a sanitary policeman. Morris has one public park, 240x254 feet, within the city limits. There are also two open squares within the city limits; area of each, about one acre. These are kept in good condition, and are the subject of regulations by ordinance.

Habitations.—There are about 900 dwelling houses in Morris, seven-eighths of which are inhabited by the owners. Average occupancy of each dwelling, 5. Very few tenement houses occupied by two or more families, and none over-tenanted. There are no regulations concerning over-occupancy. Within certain fire limits no wooden houses are allowed to be built. But few dwelling houses are connected with sewers; none have privies or water-closets in the basements, but some have them under the sidewalks.

Nearly all dwellings are isolated buildings with yard space all around them. There are many small dwellings built on the ground, not properly raised nor suitably arranged for sub-ventilation, though it has not been noticed that the inhabitants are more liable to sickness than others better situated. Cellars are used for storage of coal to some extent, but ashes and sweepings are not deposited therein. The ground under the basement floors is usually cemented.

No positive cases of ill effects have been observed from arsenic paper in sleeping or living rooms. There have been several cases of skin affection or disease from aniline-colored stockings worn by children.

GAS AND LIGHTING.—The city is partially lighted by gas, the works being located in the centre of the city, on the east bank of Nettle creek. The works are no especial nuisance to the neighborhood.

Gas is manufactured from crude coal oil. It makes a fine light, but is considered too expensive for general use. Its cost is $10 per one thousand feet, equal to $2.50 per thousand feet for coal gas. No injurious effects to health have been observed from the gas. Only one street is lighted with gas, with occasional lamps near churches, etc. Very few dwellings have gas.

GARBAGE AND EXCRETA.—Article 4 of chapter XVI of the city ordinances provides for the removal of garbage, and is generally complied with. It is removed at the city's expense, though the individual depositing it can be required to remove it. It is taken beyond the city limits and deposited in sink-holes. It is removed once a year; work satisfactorily performed. Cost for removal last year, about $100. It is not noticed that any nuisance or probable danger to health results from infrequent removals.

In May or June of each year a thorough cleaning up is made, and in isolated cases this is repeated several times a year. A very considerable portion of the garbage is destroyed by fire by the householder.

Dead animals are hauled away and buried; about 50 were so disposed of last year. The manner of disposal is satisfactory.

There are comparatively few houses of which the kitchen and laundry waste water is delivered into cesspools on the premises; such cesspools are generally porous, running into gravel beds; they are not furnished with overflows; absorption drains under the surface are used to a considerable extent. There are no regulations regarding the construction and cleaning of cesspools.

Very few houses have water-closets, and none of these deliver directly to a sewer, and but few to cesspools. Nearly all houses depend wholly on privy vaults; but few of them are water-tight. No regulations regarding the construction and cleaning of these vaults, other than to use disinfectants. None of these vaults are connected with the sewers, and no contamination of wells or cisterns has been noted as coming from this source. The dry-earth system is being introduced and used to some extent.

MARKETS AND FOOD SUPPLY.—There are no markets established by law or custom. No public market places. There are several private meat markets and numerous grocery stores where canned meats and fish are sold. No meat or fish has been condemned during the past year.

Meats and vegetables are brought in from the surrounding country. Butchers buy stock all over the county. Probably three-fourths of the fowls are brought to the city and sold to consumers alive. The supply of vegetables and fruits is good and abundant, and nearly all of it is derived from the immediate vicinity. No fruits or vegetables have been condemned during the past year. Fruits and vegetables are allowed to be offered for sale without regard to quality. Producers may sell direct to consumers without being subject to any tax. About one-fifth of the producers sell direct to consumers.

The milk supply is pure and good; distillery swill and glucose refuse are not fed to any cows in the neighborhood. It is not known that the State law concerning adulteration of food, drink, candies, cheese, milk, etc., is being violated, and there have been no prosecutions thereunder. No oleomargarine on any analogous substance is sold as butter so far as could be learned.

Slaughter Houses and Abattoirs.—Animals are obtained for the city market from the immediate neighborhood. It is not known how many are annually slaughtered for city consumption. They are usually driven to the place at which they are slaughtered. The usual method at small slaughtering houses obtains here. No animals have been condemned as unwholesome during the past year. Slaughter houses are erected at private expense. There are four of them, scattered, and all beyond the city limits. They are considered as nuisances in their neighborhoods on account of offensive smells.

The disposition made of the refuse fat, tallow, blood and animal offal is by feeding it to hogs. This is considered offensive and should be abandoned. It is not known how the meat of these hogs compares with that of hogs which have been corn-fed. The butchers ship all such hogs. The rendering of the animal refuse as a rule is done on the day the animals are slaughtered. Meat is cooled in refrigerators.

Manufactories and Trades.—There is one tannery and one paper car-wheel establishment in the city that are offensive to some degree, and the four slaughter houses near the city have required action by the board of health. They are now all in fair condition, and the restrictions imposed upon them by local ordinances are fairly complied with. None of them pollute the water supply. They all more or less produce noxious gases or vapors.

Women are employed in the Morris knife works and by the paper car-wheel company. It is not observed that their employment seriously affects their health. The hours of labor are eight, with regular meal times. Some few children are employed at light work; the youngest about 10 years of age. Their health does not seem to be affected by their employment.

The cubic space and ventilation of rooms occupied by work people are generally satisfactory. No diseases have been observed due to insufficient air supply. The arrangements for privies and water closets in these establishments are satisfactory.

Hospitals and Public Charities.—There are no hospitals, infirmaries or asylums in or near the city. No free dispensaries. A county physician looks after the poor of the city.

Police and Prisons.—On the first of May the mayor of the city, by and with the advice and consent of the city council, appoints two persons, voters, as policeman, who hold office one year, unless removed. They receive $45 per month, are declared conservators of the peace, and have full power and authority to arrest all persons disturbing the peace, committing any crime, or violating any of the city ordinances. In addition to the two mentioned there is a city marshal. The latter is on duty during the day; the former acting as night watchmen.

There are no temporary lockups or station houses, the county jail being used for the confinement of our few offenders. The average number of prisoners confined therein is about five. There are 12 cells in the jail, each cell having a floor area of 35 square feet. Dimensions of cells, 5x7 feet and 8 feet high.

Water closets are drained under the canal to Illinois river. Sufficient water is supplied for bathing purposes, but there are no regulations on the subject. The jail is built of stone and has the sheriff's residence attached. The cells are heated by hot air; the ventilation is insufficient. The diet allowed the prisoners is bread, butter, meat and vegetables.

No houses of prostitution in the city, at least none known as such. There are 15 places where intoxicating drinks are to be had. The number of cases of drunkenness brought before magistrates last year was 45. There is but one form of license issued for the sale of intoxicating drinks, being that of $500; and no license is issued for parts of a year at any less sum. Persons selling intoxicating liquors must give bond in the sum of $500 to faithfully observe all ordinances. They must not keep open or sell on Sunday, nor between the hours of 11 p. m., and 5 a. m. Licenses are transferable by resolution of council.

Fire Establishments, etc.—The fire department consists of one fire marshal, two assistant fire marshals, three or more fire policemen, and such engine-men, hose-men and hook-and-ladder-men as may from time to time be appointed by the city council. The organization is voluntary and unpaid. There is a telephone fire alarm and fire bell; no alarm boxes. The present system answers its purpose.

There is one steam fire engine, one hook-and-ladder truck and one hose carriage; no insurance patrol. The water supply for fires is had from the canal and from cisterns. No fire-extinguishers in use.

The annual expense of the department is about $900. The number of persons constituting the department is about 30. A medical man is connected with the department as a volunteer fireman; his services are free. General character of firemen for efficiency, discipline and sobriety is good. Loss of property last year by fire, about $10,000.

Not more than 25 pounds of gunpowder, nitro-glycerine or dynamite are allowed to be stored within the city limits. The State law requiring doors of public buildings to open outward is not complied with.

Cemeteries and Burial.—There are no cemeteries within the city limits. There are three near the city: the Morris Cemetery Association, the Catholic, and the St. George; the latter quite small. Number of graves in the first, 1,586; the second, probably 500; and in the St. George's, about 30. The average depth of graves is five feet; nature of soil, sand and gravel. The soil is perfectly dry at the depth the body is placed. There are two receiving vaults at the cemeteries, but they are little used.

There have been very few cases of persons dying of contagious diseases, and no extra precautions were taken at their burial. Burial permits are required, and are issued by the mayor upon receipt of certificate of death, signed by the attending physician.

PUBLIC HEALTH LAWS, REGULATIONS, SANITARY OFFICIALS.—The names of members of board of health are: P. A. Armstrong, President; S. D. Ferguson, M. D., medical health officer; H. H. Holtzman, M. C. Strasberger and M. N. Hall, members. The board of health has jurisdiction in all matters pertaining to the preservation of the health of the city; it is its duty to inspect all buildings and premises, streets and grounds, to require all nuisances to be removed or abated; to see to the construction of sewers, privies and cesspools; to investigate the food supply; to see to the health of those attending the public schools; to see that the rules of the STATE BOARD OF HEALTH, relative to contagious diseases, are enforced; and to make sanitary inspections annually.

It is a special board, appointed by the mayor and confirmed by the city council. The terms of office are 1, 2, 3 and 4 years, respectively, for the first appointments, and four years thereafter. No salary attached. There is one physician on the board, who is the executive health officer, and is selected by the board.

The board takes cognizance of defective house drainage and defective sewerage; of water contamination, public or private; of cesspools and privy-vaults; of the removal of garbage; of the condition of streets and alleys; and of the ultimate disposal of night-soil and organic wastes.

There have been no cases of contagious diseases since the board was organized, but it has full power to remove persons sick with contagious diseases to special hospital. The requirements of the STATE BOARD OF HEALTH relative to vaccination are fully complied with.

Mortuary report is required to show the street, block and number of house, and is kept by the mayor. Births, marriages and deaths become matter of public record by being reported to the county clerk under State law.

REGISTRATION AND STATISTICS OF DEATH AND DISEASE.—Burials do not occur without record of death and permission granted by mayor. The Morris Cemetery Association keep a local record of causes of death. No statistics of mortality have ever been published. Neither cholera, yellow fever, small-pox, scarlatina, cerebro-spinal fever nor typhoid fever has ever been epidemic in Morris. Diphtheria was epidemic in 1880 and 1881, with the greatest mortality in May and September. Diphtheria is less prevalent now than formerly.

Immigrants from abroad do not seem to suffer from the climate. Neither do immigrants from other parts of the country.

Following is a tabular statement, by years and months, of the mortality from specified diseases, during the past ten years:

	Year.	Jan	Feb	Mar	April	May	June	July	Aug	Sept.	Oct	Nov	Dec ....
Typhoid fever	1875	....	....	....	....	....	....	....	....	....	....	1	....
	1877	....	....	....	....	....	....	....	....	....	....	1	....
	1878	....	....	....	....	....	....	....	1	1	....	....	1
	1880	....	....	....	....	....	....	....	....	1	....	....	....
	1881	....	....	....	....	....	....	....	....	1	....	....	....
	1883	....	1	....	....	....	....	....	....	....	....	1	1
	1884	....	....	....	....	1	....	....	....	....	....	....	....
Cerebro-spinal fever	1881	....	....	....	....	1	....	....	....	....	....	....	1
Erysipelas	1881	....	....	....	....	....	....	....	....	1	....	....	....
Dysentery	1875	....	....	....	....	1	....	1	....	....	....	....	....
	1876	....	....	....	1	....	....	1	....	3	....	....	1
	1877	....	....	....	2	1	....	2	....	1	....	....	1
	1878	....	....	....	....	1	....	2	1	1	1	....	....
	1879	....	1	....	....	....	....	....	....	....	....	....	....
	1880	....	....	....	....	....	....	....	2	....	....	....	....
	1881	1	....	....	....	....	....	3	....	1	....	....	....
	1882	....	....	....	....	....	....	....	1	....	....	....	....
	1884	....	....	....	....	....	....	1	1	....	....	....	....
Scarlatina	1883	....	....	....	....	....	....	1	1	....	....	....	....
Diphtheria	1875	....	....	....	....	....	....	....	....	....	....	....	2
	1878	....	....	....	....	....	....	....	....	....	1	....	....
	1879	....	....	....	....	....	....	....	....	....	....	1	....
	1880	2	....	2	6	6	2	3	11	10	8	....	....
	1881	....	....	....	5	11	....	....	....	....	3	2	3
	1882	1	....	....	....	5	2	....	....	....	....	....	....
	1884	....	....	1	....	....	1	....	....	....	....	.	....
Croup	1875	....	....	....	....	....	....	....	....	....	1	....	....
	1877	....	....	....	....	....	....	....	....	2	....	1	....
	1878	....	1	....	....	....	....	1	....	....	....	....	....
	1883	....	....	....	....	1	....	....	....	....	....	....	....
	1884	1	....	....	....	....	....	....	....	....	....	....	....
Measles	1880	1	....	....	1	....	1	....	....	....	....	....	....
Whooping cough	1879	....	....	....	....	....	....	1	1	....	....	....	....
	1883	....	1	....	1	....	2	....	....	....	....	....	....
Pneumonia	1875	....	....	....	....	1	....	....	....	....	....	....	....
	1880	....	....	1	....	....	....	....	....	....	....	....	....
	1883	....	....	1	2	....	....	....	....	....	....	....	....
	1884	1	....	1	....	....	....	....	....	....	....	....	....
Pleurisy	1880	....	....	....	....	....	....	....	....	....	....	1	....
	1883	....	....	....	....	....	....	....	....	....	1	....	....
Phthisis	1875	....	....	....	....	....	....	....	....	....	1	1	....
	1876	....	....	....	2	1	1	....	2	2	1	....	....
	1877	....	....	....	5	....	....	....	....	....	....	2	2
	1878	2	1	2	....	....	1	3	....	1	....	....	....
	1879	....	....	....	....	1	1	....	2	....	....	....	2
	1880	....	1	4	....	5	....	....	1	2	1	1	....
	1881	....	1	1	2	3	....	1	....	....	....	....	....
	1882	....	....	....	1	....	....	....	....	....	....	....	....
	1883	....	....	1	....	1	1	....	....	1	1	....	....
	1884	....	1	....	....	....	....	....	....	....	....	1	....

	Year.	Jan...	Feb ...	March.	April...	May....	June....	July....	August.	Sept..	Oct	Nov	Dec ....
All other diseases of the lungs....	1875	...	...	....	2	2	2	2	1	..	...	....	....
Diseases of the heart...............	1875	...	...	....	...	...	....	...	..	..	1	...	....
	1876	....	1	..	....	...	....	...	....	...	..	....	....
	1877	...	....	....	1	....	...	...	...	....	...	...	....
	1878	...	....	..	....	..	1	...	...	...	....	....	....
	1880	....	....	....	1	1	....	...	...	..	..	...	1
	1882	..	...	...	..	....	....	...	1	....	....	...	....
	1883	..	....	1	1	....	...	....	...	..	...	..	....
	1884	...	...	2	...	..	1	....	...	....	....	1	....
Apoplexy.........	1876	....	...	1	....	...	...	....	....	...	....	....	...
	1879	....	....	....	....	...	....	..	...	....	...	1	....
	1880	1	....	....	....	....	....	....	....	...	...	....	....
	1881	....	1	...	.	....	....	....	....	...	...	....	....
Tetanus.................	1875	...	...	...	. ..	...	....	...	....	....	....	1	....
	1881	....	...	...	..	..	....	....	....	1	...	...	....
Puerperal diseases................ .	1880	...	....	....	....	...	....	....	....	...	...	1	....
	1881	....	..	...	...	1	..	....	....	...	....	...	....
	1882	....	....	....	..	1	....	....	...	....	....	....	....
	1883	....	....	...	....	....	...	....	1	...	....	...	....

During the past ten years there have been the following number of deaths annually of infants and children under 5 years of age.* In 1875, 13; 1876. 28; 1877, 15; 1878, 29; 1879, 13; 1880, 23; 1881, 38; 1882, 25; 1883, 10; 1884, 19.

There are no data at hand of the number of births. Still-births, reported and buried in Morris cemetery during the past ten years, 20.

MUNICIPAL SANITARY EXPENSES.—There was expended by the city on the streets and alleys last year $4,500; nothing for sewerage; about $500 for removal of ashes and garbage; $250 for expenses of board of health; $500 for erection and repairs of public buildings. Total municipal expenses during the year $20,747.83.

PUBLIC SCHOOLS.—The number of scholars registered is: Males 391, females 411; total 802, with an average attendance of 90 per cent. There are two private schools having: Males 102, females 165; total 267.

There are four public school buildings, having 17 rooms, with an average seating capacity of 45 each. Programmes of recitations vary with the various grades.

Pupils under eight years are confined to the school room four and one-half to five hours; to their seats not longer than thirty minutes at one time. Two sessions are favored. Classes sit as a rule when reciting, except when at the blackboard.

No regular work is required out of school hours from children under 11 years of age. They are then given short lessons to learn at home, studying evenings or mornings as they prefer. From the opening of school at 9 a. m., to closing at 4:15 p. m., the scholars are out of doors one and three-quarters of an hour.

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*These figures embrace only those buried in Morris cemetery.

Holidays are Thursday and Friday of Thanksgiving week; one week during Christmas holidays and one week in March, and the usual summer vacation. Exercise in the open air is not compulsory, but is encouraged.

There is no system of prizes. Scholars of both sexes study and recite together. Methods of correction are 1) to deprive of some privilege; 2) corporal punishment in cases of extreme necessity.

Pupils are not admitted to schools without first being vaccinated. This rule was first instituted in 1883, but was not rigidly enforced last year. No scholars are allowed to attend from families where contagious diseases are prevailing. The percentage of absence due to sickness is small compared to total absenteeism.

As a rule the scholars have good eyes; the light arranged to come over their shoulders. Prof. Regan, of the Morris school, says that in an experience of ten years he has known but one pupil injured by climbing stairs. As many cases of heart disease among anemic and debilitated pupils are noted on the second as on the third floor. A few only among 800 pupils are noticed as bending over their desks too much.

A reasonable amount of competition between the pupils of both sexes is considered safe. The girls pass through the high school with good health, and their influence on the boys is good.

The high school is located near the center of the city, on high ground surrounded by forest trees; the soil is loam, clay and rock. It was built in 1875, of stone, and cost $30,000. It is 74x84 feet and contains 12 rooms: Is heated by hot air. Temperature of building during winter kept at 68°. Rooms are ventilated during summer by raising or lowering windows; ventilation satisfactory. Privies are located about 150 feet from the building and are large and well arranged. The basement is used for furnaces, coal and playground in inclement weather, and is ventilated separately from rest of building. The water supply is from a well and is abundant. No analysis has ever been made of it.

Pupils can exercise sheltered from cold and heat at high school but not at ward schools. Grounds at high school are 240x254 feet.

Besides the high school there are three ward schools, each of two stories and containing two rooms each. These are heated by stoves, burning bituminous coal. All the rooms are sufficiently light, and the same general system and principles obtain in these schools as already described for the high school.

The desks used are from the Novelty Iron works of Sterling and the Morris School Furniture Co. All are satisfactory. All are single seats.

SANITARY SURVEY OF LEMONT.

By THOMAS C. RIVERA, M. D.

LOCATION, POPULATION AND CLIMATE.—The town of Lemont is in the township of the same name, 23 miles southwest of Chicago, on the line of the Illinois and Michigan canal and of the Chicago and Alton railroad. The town was founded in 1836 and incorporated in 1873.

The population in 1860 was about 1,000; in 1870, 1,500; in 1880, 2,286, and the present estimated population is about 2,600. There are between 390 and 400 under five years of age. The proportion of native to foreign population is as 3 to 4—say 1,125 native and 1,475 foreign.

No meteorological observations have been kept.

Topography.*—The country surrounding the city is diversified; hilly and rolling back from the valley of the Des Plaines river and low and marshy in the valley. The trend of the valley opposite the town is to the east and west, and at this point it is about half a mile wide, where the river expands into a pool. The river bottom is rocky, with low, marshy shores, subject to overflow in the spring and occasionally also in summer.

The altitude of the site is about the same as that of Chicago, namely, 585 feet above the sea level. Malarial effects are apparently due to the topographical features of the immediate vicinity. The city is bounded on the east, south and west by farms and grass lands. There is very little timber and no market gardens.

The business part of the town is level; the residences on the hills. The original conformation has not been materially changed, nor have the original water courses been diverted, covered or modified, except by the construction of the Illinois and Michigan canal. The general surface slope of the city is to the north. No "made land."

The canal and the Des Plaines river, a sluggish stream 100 feet wide and about 2 feet deep, pass through the city. The river banks are not well defined, although the bed is of solid rock. The water is clear except during rains, and there is no deposit of silt or organic matter. The stream dries up during the summer, leaving pools between the natural rock dams which cross the bed at several places. There are no falls, either natural or artificial. The water of the canal is turbid and foul from the sewage of Chicago.

There is an abandoned quarry about one-fourth of a mile from the business center of the village. It is 500 feet square and is overflowed from the river. The water is stagnant part of the time but does not emit a perceptible odor nor deposit organic matter.

The valley across the river is subject to overflows in spring and summer and the soil is saturated from 1 inch to 2 feet in depth. Malaria is prevalent from this cause. Overflows do not affect the water in the wells which are used.

The site and vicinity belong to the Niagara period of the upper silurian era. The surface rocks are flint bowlders, locally called "niggerheads," relics of the glacial period. The Niagara limestone also crops out to the surface. The underlying strata are clay and limestone. The dip of the strata is toward the east. The surface of the soil is vegetable loam. When this surface soil is disturbed the malarious effects are intense and wide-spread. Typhoid fever was formerly prevalent, but has now ceased entirely, owing to the general use of artesian water and the disuse of surface wells.

Water Supply.*—The water supply is derived from artesian wells within the village limits. It is pumped into a reservoir and distributed by gravity through iron pipes 4 inches in diameter. Average amount of water per diem flowing into the reservoir is 1,000 barrels; the highest capacity for storage is 2,800 barrels. Average amount of water per diem thus supplied is 1,000 barrels; maximum supply, 1,200 barrels; minimum supply, 800 barrels. The supply is abundant in case of fire.

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* The material part of the information concerning the Topography and the Water Supply was obtained from D. C. Norton, Esq., president of the village board of trustees.—T. C. R.

The water is occasionally offensive to the taste from the presence of petroleum in small quantities. There are no public fountains. There are 25 fire plugs. The well is 1,300 feet deep, and the water is clear, sweet and soft. There is no chance for organic contamination reaching the strata by which the well is supplied.

Cistern, spring or well water is used to a very small extent. In that part of the village where wells are used the soil is loam and clay. Depth of wells is 30 feet. They are believed to be free from cesspool and privy contamination. These wells, as a rule, are on the summits of hills, where the drainage is good. The well water was formerly productive of typhoid fever, which was never epidemic, but always sporadic.

The water of these wells is very hard, caused by lime salts. There are no public baths or drinking fountains.

Drainage and Sewerage.—The area included within the corporate limits is one mile long by half a mile wide. Within this area the surface drainage is very good. Underground drains, 200 feet long, have been constructed to drain about 2 acres. These drains are at a depth of 8 feet, with a fall of one inch to the foot. Many cellars in parts of the town are liable to an overflow of water in heavy rains owing to defective construction. No system of sewerage exists.

Streets, Alleys and Public Grounds.—The average width of streets is 60 feet, and of sidewalks, 6 feet. Sidewalks are paved with wood and stone. It is not noticed that they differ in healthfulness and comfort owing to direction. There are no paved streets. The soil of the roadway is a vegetable loam, and does not become unduly wet in the spring. The roadway is high in the center, with ditches at the sides. There is one-half mile of graveled roadway. The village cleans the streets at the general expense, and this system is fairly satisfactory.

Some soft maple shade trees are planted on the streets; they have no effect on the public health; are cared for by the property owners.

No portion of the sidewalk or roadway is laid down in grass. Alleys are 16 feet wide. Deposits of ashes, manure, garbage, etc., are removed from alleys in the spring by the village authority. Life is not now endangered at railway crossings, but about 25 lives have been lost from this cause in the last 5 years.

Habitations.—There are about 325 dwelling houses within the city limits. About three-fourths of these are inhabited by their owners. The average occupancy of each dwelling is 8 persons. About one-fourth are tenement houses and one-half are over-tenanted. There are no municipal regulations concerning over-occupany; neither is the construction of houses regulated. No houses have been condemned as unsafe or unfit for habitation within the last year.

No houses are connected with sewers. About 12 houses have springs in the cellar and some 50 or more have cisterns in the cellar. None have privies in cellar or basement.

About seven-eighths of the dwelling houses are isolated buildings with sufficient yards or clear space all around them. No special arrangements exist in any house for ventilation. Houses that have neither basement nor cellar are banked up all around with earth, preventing sub-ventilation. Some cellars and basements are damp in rainy seasons owing to faulty construction and want of drainage.

A few cellars are used for storing fuel, none for deposit of sweepings or ashes. The fuel used has no influence upon health. Ground under basement floor is never cemented. Average height of buildings, 24 feet; width of street, 60 feet. No ill effects have been observed from wall-paper.

Gas and Lighting.—The village is not lighted by gas. No precautions are taken with reference to the grade or sale of coal oil or kerosene. No accidents have occurred from its explosion within the last 5 years.

Garbage and Excreta.—Householders are required to remove their own garbage and this law is complied with pretty generally. Kitchen refuse is not required to be removed in covered vessels. Garbage is taken to the flats across the river outside the corporation limits. Ashes are generally removed in the spring at the expense of the village, and as often thereafter as necessity requires by the householders. Garbage is left to rot on the flats. Removal is promptly performed and no nuisances have resulted. The probable cost of removal to householders is $100; the village has kept no separate account. Garbage is destroyed by fire by householders to a very small extent.

Dead animals are dumped on the flats and this manner of disposal is satisfactory to the villagers. About 20 were so disposed of last year.

No houses deliver kitchen and laundry waste-water into cesspools on premises. All houses have privies. Vaults are not water-tight or connected with public sewers. No regulations with regard to construction and cleaning of vaults exist. The dry-earth system is not used.

Markets and Food Supply.—Markets are established by custom. None are public. No supervision is exercised to prevent the sale of unwholesome articles. The supply of fresh meat is large and of fair quality. Meat and vegetables are brought to market in wagons from the vicinity. All fowls in summer time are sold to consumers alive. The supply of vegetables is fair and is derived from the immediate vicinity. No municipal regulations exist with regard to hucksters or peddlers. Fruits and vegetables are allowed to be sold without regard to quality. No sheds or stands are provided for producers. Producers can and do sell direct to consumers. The milk supply is good. The State laws concerning adulteration of food are not enforced. No oleomargarine is sold as such.

Slaughter Houses and Abattoirs.—Animals for the village consumption are obtained in the vicinity of the village. There are annually slaughtered for this purpose about 1,500 beeves, 1,500 hogs, 100 calves, and 400 sheep. They are driven to the slaughter house and killed by shooting. Slaughter houses are private property; are small and scattered; not regulated by any ordinance. They are located beyond the city limits. One slaughter house is considered as a nuisance in summer. Fat and tallow are sold with the hides; blood and refuse are fed to hogs kept for that purpose. No regulations protect the public from consequent nuisance. The meat of these hogs is not considered as good as that of hogs which have been corn-fed. The "rendering" of animal refuse is not done on the day on which animals are slaughtered, but whenever convenient. Meat is cooled by hanging in cool place five or six hours, after which ice is used.

Manufactories and Trades.—There are no manufacturing establishments within city limits or in suburbs which are nuisances. The principal industry is the quarrying of the abundant "Athens marble."

Hospitals and Public Charities.—There are no hospitals, almshouses or asylums in or near the city, and no physician is employed for the poor.

Police and Prisons.—The police force consists of two marshals, who act as inspectors of nuisances. There is one night patrol. There is one lock-up. Both sexes are confined in the same institution. About one prisoner per week is in confinement. The air space per head is sufficient. Cells for single prisoners are 6x10x8 feet. Vagrants are kept separate from prisoners. The ventilation of police station house is effected by windows. Privy and water-closet arrangements consist of buckets. No baths provided. There are no jails or houses of correction within the city limits. The prisoners in the lock-up are furnished meals from the nearest boarding house.

There are no prostitutes in the city, known to be such. There are 21 places at which intoxicating drinks are sold to be drunk on the premises. There are 40,000 gallons of malt liquors consumed in the city per annum. There are over 10,000 gallons of distilled spirits drunk per annum. There were about 50 cases of drunkenness brought before magistrates or police courts during the year. There are no facts or statistics relative to the relation between the consumption of alcoholic drinks and the prevalence of disease. Saloons pay $500 license per annum and the ordinance is fairly enforced.

Fire Establishments, etc.—The fire establishment consists of two volunteer companies—one hook-and-ladder and one hose. The fire alarm consists of a bell at the engine-house. There are no alarm boxes. This system thoroughly answers the purpose. There is no insurance patrol for discovering fires and there are no fire engines. The water supply is obtained from an abandoned quarry and from the artesian well reservoir, and is unlimited in quantity. Fire extinguishers are not in general use. The establishment of the fire department is too recent to form any estimate of expenses. There are 31 persons enrolled in the department. The general character of the firemen for discipline, efficiency and sobriety is very good. No loss of life from fire in past year. Loss of property from fire during the year, $60; insured. No fires during the last year arose from use of dangerous and unfit fluids for lighting purposes. One fire occurred from defective construction.

There are no laws, regulations and practices concerning the storage of gunpowder, nitro-glycerine, dynamite and coal oils. There are no measures taken to insure complete inspection of illuminating oils, nor with regard to buildings, with reference to fire. The State law requiring doors of churches, school-houses, theatres, halls, hotels, etc., to open outward is not complied with.

Cemeteries and Burials.—There is one disused cemetery within the city limits; no interments are now made in it. There are three cemeteries near the city. No records are kept concerning the number of graves in each. It is not probable that any drainage from land containing graves contaminates springs, wells, or water-courses. The average depth of graves is six feet. The soil is vegetable loam and yellow clay, and is dry at the depth at which bodies are placed. No vaults are used. The rapidity of decay in graves, as shown by exhumations, is unknown. No nuisance or evil effect has been observed from the cemeteries.

No extra precautions are taken with regard to the burial of persons dying of contagious diseases. No burial permits are required; the ordinance concerning this matter is a dead letter.

Public Health Laws, Regulations, Sanitary Officials.—The name of the health organization is the Lemont Board of Health—organized in 1885. Its authority is exercised within the city limits. It is a special board of health. Members are selected by the village board of trustees because of special fitness and leisure for duties. There are three members appointed for one year each, at a salary of 25 cents per hour for time employed. One member was a physician, but he has resigned. There is no physician now on the board. The board has no executive health officer, sanitary inspector or sanitary policeman. The board met occasionally in November of 1885.

The powers of the board, as specifically defined by ordinance, are to discover and abate nuisances and to control sanitary measures in epidemics. The board has no authority independent of the city council to make and enforce ordinances at any time, not even in time of declared epidemic. It has authority both to abate and define nuisances. It takes no cognizance of defective house drainage; of defective sewerage; of possible contamination of water supply—public or private; of the condition of cesspools and privy vaults, except in summer; of the removal of garbage and the cleaning of private premises, except in summer, when it acts to a limited extent; of the condition of streets as to cleanliness; of methods of burial, or of the ultimate disposal of night-soil and organic wastes.

Small-pox patients are isolated pretty thoroughly. The board has no power to remove persons sick with contagious diseases to a special hospital. There are no requirements respecting vaccination. There are no measures taken by the board to restrict contagious and infectious diseases. The board registers no vital statistics. Births, marriages and deaths, respectively, become matters of record through the reports of physicians and clergymen to the county clerk. The board does not report causes of mortality or preserve records of death.

Registration and Statistics of Death and of Disease.—Children and others die without medical treatment and many have been buried without recourse even to an undertaker. There is a local system of registration of the causes of death, but the ordinance which regulates it is a dead letter. No statistics of mortality have been published. No cases of contagion or other diseases are reported to the local board of health. Nothing is recorded by the board concerning any case of disease. The village is too small for the relative ratio of crime and ratios of disease and death in different sections of the village to be more than barely perceptible.

Cholera has never been epidemic in the city. Small-pox was epidemic in 1881 and 1883. Scarlatina, diphtheria and typhoid fever have been occasionally epidemic in the city for a number of years until the winter of 1884, since which time cases have occurred only sporadically. Cerebro-spinal fever has never been epidemic in the city.

No mortality record has been kept in the city at any time within the last 10 years. The number of inhabitants aged, respectively, under 1 year, 1 to 5 years, 5 to 15 years, is unknown. Typhoid fever, diphtheria and scarlatina are less prevalent than formerly and no diseases are more prevalent now than formerly. Immigrants, both from foreign countries and sister states, suffer from malaria.

Municipal Sanitary Expenses.—The total amount of money appropriated by the city for sanitary purposes for the fiscal year ended March 31, 1886, was $600. No money was appropriated or expended by the city or by individuals during the year for deep drainage, sewerage, etc. There was expended by the city for repair of streets $550, for cleaning streets and removal of ashes and garbage $350, for expenses of board of health, health officers, etc., $200, for quarantine purposes $10, for erection and care of engine house, $900. The total municipal expenses during the year were $15,000.

Public Schools.—The total number of public scholars registered is 205 and the average attendance is 175. There is 1 school. All pupils under 8 years are confined in the school room one hour, and to the seat without change one-half hour. Experience is in favor of one session with recess. The classes stand during recitation. Reading and arithmetic are studied outside of school hours in the evening. The average time of each is one-half hour. The length of time devoted each day to out-door exercise is 15 minutes in the forenoon and the same in the afternoon, with one hour and a half at noon. Vacation during July and August, with one week at Christmas.

Competition is not a feature in the system of instruction. The sexes study and recite together. The methods of correction are "good advice."

The conditions of admission to the school this season have no reference to vaccinal protection. There is a village ordinance which regulates the attendance of scholars from families in which contagious or infectious diseases are prevailing. One per cent. of absence of pupils is due to sickness as shown by the "excuses" furnished by parents. There are no statistics concerning the illness and deaths of teachers and pupils.

Large school buildings of 3 or more stories in height are not advisable. There is no experience recorded here concerning the prevalence of certain diseases, or of the effect of the school-room furniture and buildings in promoting or modifying them. It is believed advisable to have identical school hours, sessions and lessons for both sexes.

The school building is located on the top of a hill, south of the business portion of the town; material stone; erected in 1879; cost, $15,000; two stories high; 5 rooms, heated by stoves, each 25x45 feet. Area of lot is about 100x150 feet; altitude about 75 feet above river; drainage good. The mean temperature of rooms when the school is opened in winter is 68° and half an hour before closing in cool seasons is 72° No sickness is traceable to variations or extremes of temperature. It requires 18 tons of coal annually to heat the building. Rooms are ventilated in summer and in winter by windows. This ventilation is considered pretty fair. The privy is detached from the building. Vault is 10 feet deep with a rock bottom. This is accounted satisfactory. The school basement is used for storing fuel and for cisterns, and is ventilated separately from the rest of the building.

The water supply is from the village water works and is abundant and very good. School rooms are sufficiently lighted. The superficial area through which light passes into each room by windows is about 180 square feet. The distance of pupils at recitations from the blackboard, maps or charts, on which they are expected to read letters or figures, is about 8 feet. There is no opportunity for pupils to exercise sheltered from the cold, heat or wet, but they are not exposed to air contaminated by privies or water-closets. There are no opportunities for drying clothes when wet coming to school. Play grounds are open and are about the school house. They are about 200 feet square. No measures are taken for the care of the grounds. Andrews' desks and seats are used in the school, and they are satisfactory.

Sanitary Survey of Edwardsville.

By John H. White, Esq., City Clerk.

Location, Population and Climate.—Edwardsville is the county seat of Madison county, and is situated a little to the southwest of the geopraphical centre of the county, on the Toledo, Cincinnati and St. Louis, and the Wabash, St. Louis and Pacific railroads, at the junction of the Madison county road; 12 miles southeast of Alton, 18 miles northeast of St. Louis. It was founded in 1813, and incorporated as a city November 26, 1872.

Its population in 1880 was 2887. Its present estimated population is 3500; under 5 years of age, 450; of native birth, 2800; of European birth, 400; negroes and mulattoes, 325.

Topography.—The surrounding country is hilly, but there are no considerable hills, bluffs or mounds, and no marshes in the neighborhood. The altitude above the sea level of the lowest ravine near by is about 400 feet. The immediate vicinity is bordered by forests and the surrounding country is occupied by fine farms, with prairie lands to the south and east.

The southern half of the city is level, the northern half hilly. The original formation has not beenmaterially changed, and the original watercourses have not been diverted or covered up.

The elevation above the sea level of the highest part of the city is about 480 feet; of the lowest part, 400 feet; average, about 450. The general slope of the city is to the northwest. No part of the city is "made land."

Cahokia creek forms the northern boundary of the city, and is the only stream that passes near or through the city. Two deep hollows or ravines, running through the city, drain it rapidly and well into this creek. During heavy freshets the creek overflows a valley from one-eighth to one-fourth of a mile wide, but soon recedes and drains off dry. The exposed shore ground is hard, yellow clay. There are no shoals or flats in the stream laid bare during low water.

The city drainage is surface entirely, and runs into Cahokia creek. A small mill pond, fed by springs, is the only body of water near the city. Pipes run from this to the creek, and the flow is continuous. During the heated term it emits a slightly perceptible odor. Rainfall and snow saturates the soil to a slight degree in fall and winter, and such saturation raises the water in wells usually about five feet.

The site and vicinity belong to the tertiary formation, and consist of a brown clay subsoil, overlaid with a dark chocolate-colored or black loam and humus. Beneath the clays and gravels of the loess and drift deposit is a bed of blue clay, with a few feet of sandy material between the blue clay and the yellow clays above. These sandy beds form the principal water horizon of the drift, and serve as a medium for the reception and transmission of underground currents, which furnish an abundant supply of water for ordinary use. A seam of coal from five to seven feet thick is mined near the city. The following vertical section, made at the Edwardsville shaft, will give a general idea of the underlying strata and the character of the coal measures:

Loess and drift clays and gravels	60	feet
Broken shale	2	"
Limestone	5	"
Coal	2	"
Hard, blue argillaceous limestone, alternating with bands of calcareous shale	16	"
Coal (Belleville) No. 1 C	6	"

WATER SUPPLY.—The water supply is entirely from wells and cisterns. The wells are dug through hard, yellow clay; in the northern part of the city they are from 50 to 75 feet deep to the bottom, and from 40 to 60 feet to surface of the water; in the southern part of the city they are from 25 to 50 feet to the bottom, and to surface of the water 12 to 25 feet.

All but probably 5 per cent. of the wells and cisterns are so located as to be free from cesspool and privy contamination, owing, first, to good, natural drainage; second, to large yard room and the location of privies at the rear end of lots.

The use of well water has never been productive of any sickness. The water is hard and apparently free from organic matter. There are no public baths, and no public drinking fountains.

Drainage and Sewerage.—The area included within the city limits is one and one-half miles square. The central and northern portions of the city are closely built up over about one-fifth of the area. The character and sufficiency of the surface drainage are excellent. No underground drains have been constructed.

Cellars do not overflow, but in the southern portion of the city water sipes into many from 6 to 36 inches deep. There is no system of sewerage. There is one sewer, 200 feet long, discharging into a deep, natural drain. This sewer is built of stone, square form, 2x3 feet.

The surface drainage, except such as passes into the sewer above mentioned, passes into good, open street gutters, many of them paved with stone. They have been found sufficient for all purposes.

There are no regulations concerning the drains connecting houses with sewers or natural drains. Houses drain through cemented socket tiles into natural drains. Traps are used, placed very close to inlets. It is not compulsory that house drainage be conveyed to sewer or gutter.

Steets, Alleys and Public Grounds.—The general width of the roadways of the streets is 50 to 60 feet; of the sidewalks is 6 feet. Sidewalks are paved with pine plank. Total length of paved streets is 19 blocks. Material used, McAdam, with stone curbing and gutters. Total length of streets unpaved is 80 blocks. The soil of streets is black loam and yellow clay. The streets are never unduly wet in the spring of the year. The unpaved streets are high in the centre; graded towards the gutter; no underdrainage; all surface. There are about 7 miles of wooden foot pavements, 5½ blocks of brick, and 100 feet of stone flags.

It is the duty of the superintendent of the streets to clean the same when necessary. Streets are sprinkled by private subscription to the satisfaction of all. Shade trees are planted along the streets leading out of the city, from 12 to 18 inches from sidewalk, and are, as a rule, soft maple. They are considered beneficial to the general health of the city.

The general width of alleys is 16 feet; the deposit of garbage, ashes, etc., therein is regulated by ordinance. They are cleaned by the superintendent of streets and his assistants. There is no special arrangement in the work, but it is generally satisfactory.

One public park belongs to the city, dimensions 300x300 feet; within the city limits. There is also one open square within the city limits; area of the same, 150x150 feet. The park and square are kept in good condition. No public fountains in park, and no public urinals in streets or park. There are no regulations or ordinances relating to the care or management of the park, but it is taken care of by the superintendent of streets.

Habitations.—There are 615 dwelling houses within the city limits, three-fourths of which are inhabited by their owners. The average occupancy in the first ward is 5½, and in the second and third wards 4½ persons to each dwelling. About five houses are overtenanted in the first ward. These are occupied by colored people. There are no municipal regulations concerning over-occupancy.

City ordinance No. 22 defines the "fire limits," and the manner and material of which houses shall be constructed therein. This ordinance is thoroughly enforced.

There have been no houses condemned as unsafe during the past year, and none as unfit for habitation for sanitary reasons. No houses have connection with the sewer. None have springs, cisterns, wells, or privies in the basement.

Three-fourths of the dwellings are isolated buildings with sufficient yards or clear space all around them. As a general rule houses that have neither basement nor cellar, are properly raised and suitably arranged for sub-ventilation. Only a few of the old buildings are too low. A small percentage of the basements in the southern portion of city are damp and insufficiently drained. About one-tenth of the private houses are furnished with proper bathing facilities.

Cellars in business houses are used for storing fuel, but ashes and sweepings are not deposited in cellars. No diseases have been observed which seem to be due to overcrowding or unfitness of habitations. The ground under basement floors as a rule is not cemented. Height of buildings in comparison with the width of streets, from one-half to two-thirds. No ill effects have been observed from arsenic paper in sleeping and living rooms, nor from dyed wearing apparel.

Gas and Lighting.—The city is not lighted by gas. No precautions are taken to ascertain the grade, and there are no restrictions on the sale of kerosene, etc. One accident has occurred from an explosion of coal oil within the last five years. The electric light is not in use.

Garbage and Excreta.—Ordinances provide for the removal of all garbage and excreta, and penalty attaches if the party fails to remove the same after notice from the city marshal. The law is generally complied with.

Kitchen refuse is not required to be removed in covered vessels. Garbage, ashes, etc., are removed by the householder; they are taken to the suburbs of the city, usually about once a week.

The ultimate disposition of excreta is its use as a fertilizer. The removal and disposition is not satisfactorily performed. There has been no perceptible damage to health resulting from infrequent removals. It costs the householder nothing to have it removed, as parties remove it gratuitously on account of its value as a fertilizer.

No garbage is destroyed by fire by householders. Dead animals are taken one-fourth of a mile outside of the city limits. About six were so disposed of last year, and this manner of disposal is apparently satisfactory.

No cesspools are used for kitchen or laundry waste-water; in fact no cesspools are used at all. Two suburban residences have water-closets which discharge into a natural drain. With these exceptions all houses depend upon privy vaults, none of which are water-tight. The construction and cleaning of such vaults are regulated by ordinance. No cases of contamination of wells or cisterns by privy or cesspool drainage have occurred. The dry-earth system is not used.

Markets and Food Supply.—There are no markets established by law. There are five private meat markets. Grocery stores sell meats in winter; also fish, vegetables and fruits in season. The sale of such articles is regulated by ordinance. It is the duty of the city marshal to make inspection of food when his attention is called to it or when he has reason to believe that unwholesome food is offered for sale.

The supply of fresh meat, as to quantity and quality, is very good. No meat or fish has been condemned during the past year. Meats and vegetables are brought to market from the immediate vicinity in wagons. About one-half of the fowls are brought to town and sold to consumers alive. The supply of vegetables and fruits, as to quantity and quality, is very good. About nine-tenths of the supply is derived from the immediate vicinity. No fruits or vegetables have been condemned during the past year.

There are no municipal regulations with regard to hucksters and peddlers, private markets, or the hawking of fruits, etc., in the streets. Fruits and vegetables are allowed to be offered for sale without regard to quality, but are generally wholesome. The producer can sell direct to consumer without being subject to any tax.

The milk supply is of the best quality. No cows are fed on distillery swill; all are fed on grass, grain and hay. No cases are known of poisoning or acute disease caused by unwholesome articles of food, canned or tinned meats, vegetables, fruits, etc.

The State law relative to the adulteration of food, drink, etc., would be enforced if occasion offered, but there has been no prosecution under it. No oleomargarine is sold as butter.

Slaughter Houses and Abattoirs.—Animals for city market are obtained from the immediate vicinity. Annual number slaughtered for city consumption: Beeves, 728; hogs, 340; sheep, 520. For packing, none. For shipment: Hogs, 4,000; beeves, 600; sheep, 300.

Animals are driven to places at which they are slaughtered. Animals are not inspected before or after slaughtering. No unwholesomeness has been observed in the meat or milk of animals caused by fright or terror, but the effect of depriving them of food and water for 24 hours previous to killing is to make the flesh look unnatural, and will attract the attention of a butcher of experience. It is claimed that no diseased animals are knowingly slaughtered for food. The usual method obtains as to slaughtering. Animals that die in transit are skinned and the carcass fed to hogs. The establishment and conduct of slaughter houses are regulated by ordinance. The business is scattered in small establishments just outside the corporation limits. They drain into open sewers, which do not flow through the city. They are not considered as nuisances, there being no dwellings in the neighborhood. Tallow is rendered, and the blood and refuse are consumed by hogs—not kept for that purpose, however. The public is protected from any consequent nuisance by ordinances. The meat of these hogs, as compared with that of corn-fed hogs, is heavier; no other difference is noticeable. The "rendering" of animal refuse is done every other day.

Manufactories and Trades.—Proper restrictions are imposed by ordinance upon all manufacturing establishments within the city limits, and none of these is considered a nuisance.

Hospitals and Public Charities.—The county "poor farm" is just inside the city limits. Number of beds 105. The superintendent is appointed annually by the county board of supervisors. There are no free dispensaries. The hospital accommodation is sufficient for the wants of the city. The city poor are attended by the county physician usually. If employed by the city the usual fee is paid as for other patients.

Police and Prisons.—The police force is appointed annually by the mayor and confirmed by the city council. The force numbers three. They act as inspectors of nuisances when complaint is made. Two of the force constitute the night patrol.

There is one temporary station or "lockup," in which both sexes are confined, but in separate cells. The air space per head for average occupancy is 450 cubic feet per cell. All cells are double, 18x17 feet and 8 feet high. Vagrants are not kept separate from the prisoners. The sanitary care of the prison is in charge of the marshal.

The county jail is also within the city limits. Average occupancy of the same, 8½. The dimensions of single cells are 5x8 feet and 8 feet high. The building is heated by furnace and there is a good system of ventilation. In the report of the State Board of Public Charities Madison county jail is spoken of as a model for security, light and good ventilation.

No epidemics have occurred among the prisoners. The diet of the prisoners at the county jail consists of fresh meat, coffee, bread, beans and peas; at the city prison, bread and coffee. The poor farm furnishes work for all who are able.

There are no houses of prostitution or prostitutes in the city. There are fourteen saloons in the city; no beer gardens. Estimated amount of malt liquors consumed annually, 40,320 gallons; estimated amount of distilled spirits consumed annually, 3,600 gallons. Number of cases of drunkenness brought before magistrates last year, 65 The sale of intoxicating drinks is regulated by ordinance, which is strictly enforced.

Fire Establishments, etc.—The fire establishment is organized under the direction of the city council and is a volunteer organization. There is no fire alarm system. There is one hand fire engine, one hook-and-ladder truck and one hose carriage. No fire extinguishers in use. The water supply is derived from public cisterns; it is abundant, cisterns being placed throughout the main portion of the city. Annual expense of the fire department for the last fiscal year $219.34. There are 55 volunteers in the department. No loss of life by fire last year. Loss of property about $250. No fires last year due to dangerous fluids for lighting purposes. One fire was supposed to be due to an incendiary.

There are no regulations concerning the storage of gunpowder, nitro-glycerine, dynamite and coal oils. No measures are taken to insure complete inspection of illuminating oils. Fire limits are established by ordinance. The State law requiring doors of public buildings to open outwards is duly enforced.

Cemeteries and Burial.—There are two cemeteries within the city limits—"Lusk's" and the Catholic cemetery. Very few interments are now made in them. "Wood Lawn" cemetery is outside of the city, and is the one generally used. Number of graves in "Lusk's" 500; annual interments, 9; in the Catholic cemetery, 475; annual interments, 12. In "Wood Lawn" there are 666 graves and about 40 annual interments. It is not probable that sub-soil drainage from land containing graves contaminates wells or watercourses. Average depth of graves is 6 feet. Nature of soil, black soil and yellow clay, and dry at the depth at which the body is placed. No vaults are used. No nuisance or evil effect has been observed from the cemetery. Extra precautions are taken with the burial of persons dying of contagious diseases; no unnecessary persons are allowed at such burial, disinfectants are used and old clothes burned. There are no receiving vaults. No burial permits are required.

Public Health Laws, Regulations, Sanitary Officials.—The board of health was organized in April, 1873, and is composed of the mayor and alderman of each ward, each alderman looking after his respective ward. There are seven members of the board, none of whom are physicians. The board has no exclusive health officer; the mayor is chief health officer by virtue of his office. All members of the board have police powers. The board makes an annual inspection of the city and oftener if deemed necessary. It meets only when urgent necessity requires. The powers of the board are defined by ordinance. It has authority, independent of the city council, to make and enforce ordinances at any time and to define and abate nuisances.

The board takes cognizance of defective house draining when observed or brought to its notice; of defective sewerage, as provided by ordinance; of contamination of water supply by ordering contamination abated; of the condition of privy vaults, when defective, ordering their correction. It also takes notice of the removal of garbage and cleansing of private premises, and if nuisances are found thereon orders the same abated; also of the condition of the streets and alleys; of methods of burial, the same being provided for by ordinance; of the ultimate disposition of night-soil and organic wastes, also provided for by ordinance.

Patients having small-pox or other contagious diseases are isolated and every precaution is taken to prevent the spread thereof. The board has the power to remove persons sick of contagious diseases to special hospital or elsewhere, and does so when deemed advisable. Vaccination is generally enforced. The measures taken by the board to restrict contagious and infectious diseases, when necessary, are: To close public schools and prevent public meetings; to quarantine any house where such disease exists, etc., and generally to enforce the precautions as provided by the city ordinances.

The mortuary report in some cases shows the street, block and number of house, but not uniformly. Births, marriages and deaths become matters of record by reports of physicians and clergymen filed with the county clerk. The board makes no report of causes of mortality or records of death.

Registration and Statistics of Death and of Disease.—Burials occur without record of death having been made, and no permission is required from the health authorities. There is no local system of registration of causes of death in force. No statistics of mortality have been published.

Cases of contagious diseases only are reported to the board of health. Nothing is recorded concerning any case of disease.

Neither cholera nor small-pox has ever been epidemic here. Scarlatina was epidemic in 1884; and typhoid fever in 1883 and 1884; mortality of both diseases was light. Malarial diseases of all types are less prevalent now than formerly, while typhoid fever and other zymotic diseases seem more prevalent. Immigrants from abroad seem to suffer from malaria, as do also immigrants from other parts of the country, but not to such an extent as the foreigners.

There are 75 children under 1 year of age; 375 between 1 and 5; and 625 between 5 and 15 years.

Municipal Sanitary Expenses.—No appropriation was made for sanitary expenses for the year ended May 1, 1886. For the next fiscal year $100 has been appropriated. There was appropriated in 1885 for paving and repairs of streets, $7,026.60, all of which was expended. About $50 was spent by individuals for brick pavements. For care of public parks $125 was expended. For repairs of public buildings, $71.06.

Public Schools.—The total number of scholars registered last year was 708, and the average attendance was 85 per cent. There are three public schools (including one for colored children), and one parochial school.

There are nine graded departments and two not graded in the public schools. Pupils under eight years old are confined to the school-room two hours in the morning and two in the afternoon. They are not seated inconveniently long at any time. Two sessions of school are favored. Classes stand during recitation. But few scholars study outside of school hours. From the opening of school to closing one and one-half hours are devoted to out-door exercise each day. The usual Saturday vacations are had, National holidays, Christmas week and the summer vacation from June 1st to September 1st. Exercise in open air is not compulsory. There are no prizes for competition. The sexes study and recite together. Methods of correction are such as suggest themselves to the principals as appropriate for each offense. There are no conditions of admission to the school with reference to vaccinal protection. No cases of small-pox have occurred among the scholars or teachers. About 50 per cent. of the absence of pupils is due to sickness. Scholars from families in which contagious or infectious diseases are prevailing are not allowed to attend school, though there are no regulations on this subject.

The main school building is 3 stories high and is situated on a 8-acre lot, high rolling land, from which the water is carried by a ravine to a creek one-half mile distant. The building is of brick, erected in 1864, and cost $14,000. It contains nine rooms, capacity 55 to 75 each. There is a one-story brick building containing two rooms, called the Lincoln School, for colored children. A colored man and woman are employed as teachers. The building is situated on a very high piece of ground; area of lot two-thirds of an acre. A third school is now being built, of brick; two stories, four rooms;

capacity, 72 each. The buildings are heated by furnace. Temperature kept at 70 degrees from opening to closing of school, during the winter. Slight colds are traceable to variations or extremes in temperature. Rooms in winter are ventilated by side ventilators and lowering of top windows if necessary; in summer by open doors, windows and ventilators. The ventilation is satisfactory.

There are separate privies for the sexes built of brick and cleaned daily. Basements are used for storage of fuel and for furnaces; they are ventilated separately from the rest of the building. Water is supplied by two wells; it is abundant and of good quality. About 80 square feet of surface admits light to each room. Average distance of pupils from blackboard, etc., is 5 to 6 feet. No opportunity for exercise under shelter and no provision for drying wet clothing. The play ground of the principal school contains 3 acres of rolling land with a timbered grove. Janitors give constant care to grounds and privies. Desks are of the latest improvements and are satisfactory.

SANITARY SURVEY OF BUSHNELL.

By W. E. HAINES, M. D.

LOCATION, POPULATION AND CLIMATE.—Bushnell is in the northeastern part of McDonough county, at the junction of the main line and the Quincy branch of the Chicago, Burlington and Quincy railroad and the Wabash, St. Louis and Pacific railroad, 192 miles southwest of Chicago. The town was incorporated in 1860, at which time its population was about 800. The increase of population has kept pace with that of the county, which in 1860 was 20,069; in 1870 was 26,509; and at the date of the last census (U. S.) was 27,970—at which time the population of Bushnell was 2,316. The present estimated population is 2,500. The estimated number of negroes and mulattoes is from 30 to 50.

No meteorological observations have been regularly recorded in the city.

TOPOGRAPHY.—The country surrounding the city is a rich level prairie slightly undulating. There are no hills, bluffs, mounds, marshes or low moist lands in the vicinity. The altitude above the sea-level is about 600 feet. The city is surrounded by farms. The site of city is level and its original conformation has not been materially changed.

The general surface slope of the city is about equal in both directions east and west, affording good surface drainage. There is no "made land" within the city. No streams of water pass through or near the city, nor are there any bodies of water within or near inhabited portions of the city.

The site and vicinity belong to the tertiary period. The surface rocks are sand stone, and the underlying strata in order of succession from above downward are clay, sandstone, soapstone, coal. They dip towards the east at an angle of 10°. The surface soil is black loam. When the surface soil is disturbed malarious effects have not been observed of late years. There are continuous fissures in the rock and earth through which the soil water flows. No diseases are believed to be due to the soil or geological formation.

WATER SUPPLY.—The chief supply of water is from common wells with pumps. There are no artesian wells. Cisterns, springs and wells are used exclusively. The usual depth of wells is 20 feet, dug or sunk through the black loam and clay. The depth to the surface of water is about 14 feet. Cisterns and wells are generally so located as to be free from cesspool and privy contamination. Privy vaults are shallow and are located usually at least 100 feet from any cistern or well. The use of well water has not been productive of sickness, although the water is hard and impregnated with lime salts, aluminum and iron. No disease has arisen from the use of lead pipes. There are no public baths or public drinking fountains.

DRAINAGE AND SEWERAGE.—There is included within the city limits an area of 640 acres, of which about half is closely built over as compared with what may be called country. There is good tile drainage throughout. There are 4 or 5 miles of underground drains placed at a depth at the highest point of 8 feet; the average depth is about 4 feet. There are no swamps, areas of made land, or places saturated with water, near or in the town which are undrained. A few cellars are liable to an overflow in heavy rains. There is no system of sewerage in the town.

STREETS, ALLEYS AND PUBLIC GROUNDS.—The general width of the roadway of the streets is 50 feet and of the sidewalks is 4 feet. The sidewalks are made of wood. The streets do not differ in healthfulness owing to direction. The soil of roadways is black loam, but the streets are not unduly wet in the spring of the year owing to the fact that the roadways are graded and tile-drained. There is no road or street pavement of any kind.

There is an ordinance regulating the cleaning of streets but they are not watered. The arrangement for cleaning is satisfactory. Soft maple shade trees are planted along the streets, and are cared for by the corporation and by individual property owners. No portion of the sidewalk or roadway is laid down in grass.

The general width of alleys is 12 feet. Deposits of ashes, manure, garbage, etc., are not allowed to accumulate, but are removed from the alleys under the municipal regulations.

There are two public parks which belong to the city. The dimensions of each are 360x360 feet. These are within the city limits. There are no open squares other than these within the city limits. The public parks are kept in good condition.

Proper precautions are now enforced at the railroad crossings within the city limits and no lives have been lost from this cause within the last 5 years.

HABITATIONS.—There are between 400 and 500 buildings in Bushnell, but no record is kept of the number of dwelling houses within the city limits. The average occupancy of each dwelling is one family, averaging about five persons. No houses are over-tenanted, and none have been condemned as unfit for habitation for sanitary reasons. None have springs, cisterns, wells or privies in the basement or cellar. The cellars and basements in every part of the city are well drained and are used generally for storing fruit.

No diseases have occurred which seem to be due to over-crowding or to unfitness of dwellings or to the bad condition of cellars.

GARBAGE AND EXCRETA.—Owners of property are compelled by city ordinance to remove garbage at their own expense, and this law is fully complied with. The kitchen refuse is not required to be removed in covered vessels. Refuse is taken outside city limits. It is not allowed to accumulate, but is used as manure by farmers. This removal and ultimate disposal is satisfactory and no nuisance or probable damage to health results. The cost of removal is nominal. The destruction of garbage and refuse by fire is not practiced. Dead animals are buried. But few animals were so disposed of during the last year. There are no houses of which the kitchen and laundry waste-water is delivered into cesspools on the premises. Absorption drains under the surface of the soil are generally used. No houses have water-closets; all depend upon privy vaults. None of the privy vaults are water-tight. There is no established method in force with regard to constructing and cleaning such vaults. No cases of contamination of wells or cisterns by privy or cesspool drainage have occurred.

MARKETS AND FOOD SUPPLY.—There are no established markets. The private markets and grocery stores in which meats, fish, vegetables and fruits are sold are under no supervision. The supply of fresh meat and of vegetables and fruits is ample and good. The supply is all derived from the immediate vicinity, and the producer sells direct to the consumer. The milk supply is good. No oleomargarine or any other substance or any admixture thereof is sold as butter.

SLAUGHTER HOUSES AND ABATTOIRS.—Animals for the city markets are obtained from the immediate vicinity. Animals are slaughtered only for home consumption. No diseases have been observed as rendering their flesh injurious as food, and no cases of trichiniasis have ever been reported.

MANUFACTORIES AND TRADES.—There are no manufacturing establishments within the city limits or in the suburbs which are nuisances.

POLICE AND PRISONS.—There are day and night police, two in number. They do not act as inspectors of nuisances. There is one night patrol on duty. There is one "calaboose." Both sexes are confined in the same institution. There are no places in the city at which intoxicating drinks are sold to be drunk on the premises. Anti-license laws are enforced.

FIRE ESTABLISHMENTS, ETC.—There is a hook-and-ladder company organized, and the city owns a hook-and-ladder truck. The water supply for fires is obtained from wells. "Fire extinguishers" are not in general use. The annual expense of fire establishment is about $400. There are 33 persons enrolled in the fire department. The loss of property from fire in the past year was about $10,000. The State law regulating the doors of public buildings is complied with.

CEMETERIES AND BURIALS.—There is one cemetery within the city limits, and near the city. The average depth of the grave is six feet. The soil is black loam, and is dry at the depth at which the body is placed. No nuisance or evil effect has been observed from the cemeteries. The burial of persons dying of contagious diseases is placed in charge of the board of health. Burial permits are not required, and burials occur without record of death or permission granted from any authority.

PUBLIC HEALTH LAWS, REGULATIONS, SANITARY OFFICIALS.—There is a special board of health. The members are selected by the city council, with the mayor as president. There are five members, of whom three are physicians. Each physician acts as a health officer, and they make inspections monthly. The board meets once a month. Its powers are defined by ordinance. The board has no authority, independent of the city council, to make and enforce ordinances at any time. It has authority to define nuisances.

In contagious diseases all patients are isolated as closely as possible on their own premises, and persons sick with contagious diseases may be removed to special hospital, where the nature of the case requires such treatment.

The requirements of the STATE BOARD OF HEALTH, respecting vaccination, are strictly enforced, and proper measures are taken by the board to restrict the spread of contagious and infectious diseases. The board registers no vital statistics, but causes of mortality are reported to the county clerk.

PUBLIC SCHOOLS.—The total number of public scholars registered is 540. The average attendance is 433. There are 10 schools, one of each grade. The following is a programme of each school day, showing the division of time for the several studies, recitations, recesses, and intermissions, for the primary and in the grammar grades: Primary, 9 to 10 a. m., first session; 10 to 10:20, recess; 10:20 to 11:20, second session; 11:20 to 1:30 p. m., intermission; 1:30 to 2:30, third session; 2:30 to 2:50, recess; 2:50 to 3:50, fourth session. Grammar: 9 to 11:30 a. m., first session; 11:30 to 1:30 p. m., intermission; 1:30 to 4, second session.

All pupils under 8 years are confined to the room one hour, and to the seat, without change, from 10 to 30 minutes. Experience is in favor of two sessions a day, with one long intermission. The classes stand during some recitations, and sit during others. In some of the higher grammar grades pupils are expected to devote from one to two hours daily to study outside of school sessions. The actual length of time devoted each day to out-door exercise is two to two and a half hours. There is a holiday every Saturday. Vacations are from Christmas to New Year, and from June 1st to September 1st, each year. Exercise in the open air is not compulsory.

Competition is a feature of the system of instruction, but no prizes are awarded. The sexes study and recite together. Corporal punishment is rarely used.

Pupils are required, as a condition of admission to the schools, to show certificates of vaccination from a legally qualified physician. These conditions were first instituted in 1883. They are not, however, very thoroughly enforced. No cases of small-pox have occurred among the scholars since vaccinal protection was made a condition of admission. Pupils from families in which contagious or infectious diseases are prevailing are not allowed to attend school. These regulations are thoroughly enforced. About 50 per cent. of absence of pupils is due to sickness, as shown by the "excuses" furnished by parents. There are no statistics respecting the illness and deaths of teachers and pupils.

There are 2 school buildings, one two-story, brick and stone, high school building, and one two-story, frame, primary school building. The number of rooms in both is 10, each with sufficient capacity to seat 60 pupils. The buildings are heated by steam. The mean temperature of the rooms when the school is opened is 70 degrees, and half an hour before closing in the cold season it is 60 to 65 degrees. It requires 2,300 bushels of soft coal annually to heat the buildings. The rooms are ventilated only by the windows and doors. The rooms are sufficiently light, the area through which light passes into each room by windows being 240 square feet. The distance of pupils at recitations from the blackboard, maps or charts, on which they are expected to read letters or figures is from 4 to 20 feet. Double desks with folding seats are used and these are fairly satisfactory.

The basements are used for furnace, storing fuel, play ground and workshop. They are ventilated separately from the rest of the building. The site of the buildings (an entire block) is low and the drainage (natural) is not very good. The play grounds are ample. The water supply is from wells and is abundant, and it is thought to be good. The privies with vaults are located in the back part of the lot and are kept in good condition, the vaults being emptied during vacation.

SANITARY SURVEY OF CARLYLE.

By IRA D. KINGSBURY, Esq.

LOCATION, POPULATION AND CLIMATE.—Carlyle, the county seat of Clinton county, is situated about the centre of the county, on the Ohio and Mississippi railroad, and near the Kaskaskia river. Latitude, 38° 35′ N., longitude, 89° 35′ W.

It was founded in 1818, and first incorporated in 1837. In 1853, and again in 1865, the city was re-incorporated under special charter; and April 15, 1884, it was incorporated under the general incorporation act.

The population in 1870 was 1364, in 1880, 2017; the present estimated population is 2300; about 310 of whom are under 5 years of age. The estimated number of natives is 2000, of foreigners 300. There are about 250 persons of European birth, and 150 negroes and mulattoes.

No meteorological observations have ever been made in the city.

TOPOGRAPHY.—The country to the north of the city is rolling land, formerly timbered. To the east, beyond the Kaskaskia river and "bottoms," about a quarter of a mile from the city, several hills rise from 50 to 100 feet above the river-level. South is level bottom land; and west level prairie. There are no marshes or low moist lands in the vicinity. The city is bordered on three sides by cultivated farm-lands; and on the east by a belt of timbered land, a quarter of a mile mide. The site of the city is undulating or rolling, and has not been materially changed from the original conformation. The water-courses have not been diverted, covered or in any manner modified. The general surface-slope of the city is toward the south and east. No part of it is "made land."

The Kaskaskia river forms the eastern boundary of the city, and is at this point about 200 feet wide. Its eastern banks are steep; the western slope gradually to the water's edge. The exposed shore is hard ground, sandy in places, with rock underlying all, a few feet from the surface. The water is clean. Upon receding, after a "rise" a deposit of several inches is left upon the exposed shores—mud in some places, in others sand. There is a shoal of rocky material mixed with shells, which usually in August is covered by only 2 or 3 feet of water. A mill-dam just opposite the city has a fall of about 8 feet; above which the stream is 12 or 15 feet deep, but flows sluggishly; below it is about 6 feet deep and flows with a gentle current. There are no ponds or other bodies of water nearer than three miles, at which distance there are some small lakes, used only for fishing purposes; and never at any time of the year does water stand or become stagnant within or near the city. A flat in the southern part of the city is sometimes covered by backwater when the river is unusually high; but no ill effects upon health are observed from this. The water in wells rises from 3 to 5 feet after heavy rains.

The site and vicinity belong to the upper coal formation; the surface rocks are of limestone. The underlying strata in order of succession from above downwards are: 1, soil and yellow clay; 2, shales; 3, black slate; 4, coal and shale; 5, shales; 6, sandstone; 7, shales and slate; 8, sandstone alternating with shales. The dip or slope is to the northwest, angle not ascertained. The surface soil is a sandy loam. No malarious effects are observed when the surface soil is disturbed. The soil water flows out through continuous fissures in the rocks and through the shale strata. No diseases are believed to be due to the soil or geological formation of the vicinity, and no epidemic has followed the flow of underground water.

Water Supply.—The water supply is from wells and cisterns. A company has recently been formed looking to the establishment of a system of water works. No analysis of water has been made; but at no time has the water supply been offensive in taste or odor. There are no fire plugs; and no artesian wells. The usual depth of wells is from 15 to 25 feet; water usually stands from 4 to 8 feet deep. It is sometimes necessary to drill through rock in order to reach water. Wells and cisterns are generally so located as to be free from cesspool and privy contamination. The use of well-water has never been know to be productive of sickness. The water is very good, but is hard from an excess of lime salts. No disease has arisen from the use of lead pipes. There are no public baths or drinking fountains.

Drainage and Sewerage.—There are 493 acres of land within the city limits, nearly all of which is built upon. There are open drains sufficient to carry off water and prevent the streets from being flooded; but no underground drains, except private drains from cellars. There are no swamps, areas of "made land," or places saturated with water in or near the city.

Cellars are liable to overflow in heavy rains, and to the intrusion of soil water. There is a system of sewerage in course of construction; and there is one sewer which runs from the school-house grounds and discharges into the river below the city limits. It is round in shape; 18 inches in diameter in the clear; constructed of drain tile, not cemented; and is kept clean by its own flow.

STREETS, ALLEYS AND PUBLIC GROUNDS.—The general width of the roadway of the streets is 66 feet. The side-walks, built mostly of brick, are 8 feet wide on the public square, 6 feet on Main, and 4 feet on the cross streets. There is no difference in the comfort or healthfulness of the streets owing to their direction. None of them are paved. The soil being sandy loam, the roadways, which are graded from centre to open drains on each side, are not unduly wet, even in the spring of the year. The cleaning of the streets is satisfactorily attended to by the street commissioner, but there are no facilities for watering them.

Shade trees, of hard and soft maple, elm, Lombardy poplar and locust, are planted along the streets in rows, between the sidewalks and the gutters; they are undoubtedly conducive to health; and are cared for by the property owners. A space of five feet, between the side-walk and gutters is laid down in grass.

The general width of alleys is 20 feet, and the owners of adjacent property are required to keep them free from ashes, manure, garbage, etc., and otherwise in good condition. There are no public parks belonging to the city and no open squares within its limits, except the court-house park, where occasional open-air concerts are given by the city band. There are no railroad crossings, or street railways within the city. The only public urinal is in the court-house park.

HABITATIONS.—There are about 460 dwelling houses within the city limits, with an average occupancy of five persons. About two-thirds of these are inhabited by their owners. There are very few tenement houses, and none that are over-tenanted, although there are no municipal regulations concerning over-occupancy. There are no regulations as to the material of which or the manner in which houses shall be constructed within the city limits. No houses have been condemned within the past year as unsafe or as unfit for habitation for sanitary reasons. Nearly all are isolated buildings, with sufficient yards or clear space around them.

There are no springs, cisterns or wells and no privies in the basements or cellars. It is not known that there are any houses in which special arrangements are made for ventilation, although nearly all have well-ventilated cellars, or are properly raised from the ground and suitably arranged for sub-ventilation. Some of the cellars are damp, but most of them are properly drained. Not more than one house in fifty is furnished with proper bathing facilities. The cellars are not generally used for storing fuel, but there are a few coal-cellars.

No diseases have occurred due to over-crowding or unfitness of dwellings or bad condition of cellars. The fuel used has no harmful influence upon health. Basement floors are usually cemented or paved with brick. No ill effects upon health have been observed from any wall paper or from dyed wearing apparel.

GAS AND LIGHTING.—All of the main streets are lighted by coal-oil street lamps. No precautions are taken to ascertain the grade, and no restrictions are placed on the sale, of illuminating fluids, kerosene, etc., but no accidents have occurred from explosions of these fluids within the last five years. There is only one house in the city lighted by gas.

GARBAGE AND EXCRETA.—The regulations in regard to the removal of garbage, etc., are fully complied with. Kitchen refuse is not required to be removed in covered vessels. No nuisance or damage to health has resulted from infrequent or improper removals, etc. Dead animals are required to be buried by the street commissioner, and thus far this manner of disposing of them has proved satisfactory. There are no cesspools or flush-tanks used. Absorption drains under the surface of the soil are used only to a small extent.

All houses depend wholly on privy vaults; very few of these are water-tight. There are no regulations with regard to construction or cleaning. A very few are connected with the present sewer; others will be connected with the sewers now in course of construction. There have been no known cases of contamination of wells or cisterns by drainage from privies.

MARKETS AND FOOD SUPPLY.—There are no public market places. There is a supply of fresh meat, sufficient as regards quantity, quality and variety, brought in wagons from the slaughter houses, three-fourths of a mile from town. About one-half of the fowls used for food are brought in and sold to consumers alive. An abundant supply of vegetables and fruits of good quality is brought in wagons from the farms and gardens in the immediate vicinity. About one-half of this is sold direct to the consumer, the producer not being subject to any tax for such privilege; the rest is sold to the grocers. No meat, fish, fruit or vegetables have been condemned as unfit for food within the last year.

Some few cases of poisoning by unwholesome articles of food have occurred, but no details can now be obtained. There is a city ordinance making the selling of such articles of diet a misdemeanor and prescribing a penalty therefor. The milk supply is good and sufficient, the cows all being corn or grass-fed. There have never been any known violations of the State laws concerning the adulteration of food, drink, candies, medicines, liquors, butter, cheese, milk or vinegar, and no oleomargarine has ever been openly offered for sale.

SLAUGHTER HOUSES AND ABATTOIRS.—As nearly as can be estimated 417 beeves, 210 hogs and 156 sheep were slaughtered last year for city consumption. The supply is furnished from the surrounding farms—the animals being driven to the slaughter houses, where they are killed by striking on the head with a hammer. They are not fed the day before killing. Animals are not submitted to inspection either before or after slaughtering. No meat has ever been condemned as unfit for food.

The slaughter houses are erected at private expense; and an ordinance provides that "no slaughter house shall be erected within the limits of the city." The business is scattered in small establishments, which drain into open branches. They are not considered as nuisances. The blood, animal refuse and offal are fed to hogs kept for the purpose; no ordinance protects the public from consequent nuisance, the meat being considered just as good as that of corn-fed hogs. In warm weather the meat is put in ice chests to cool; in cold weather it is hung up.

MANUFACTORIES AND TRADES.—There are no manufacturing establishments within the city limits, or in the suburbs, which are nuisances. The cubic space and ventilation in rooms occupied by workpeople are generally sufficient.

HOSPITALS AND PUBLIC CHARITIES.—There are no hospitals, almshouses, infirmaries or asylums in or near the city, except the county poor-farm, which is situated two and a half miles north. The city employs no physician. It is the duty of the county physician to prescribe for the poor.

POLICE AND PRISONS.—There is no organized police force, the city marshal being the only police officer; he also acts as an inspector of nuisances. There is a "calaboose," used only for the temporary confinement of tramps, intoxicated persons, and disturbers of the peace. It contains two cells, 8 feet wide and 12 feet long, ventilated by grated windows.

The county jail is in Carlyle; it generally contains two or three prisoners. The cells are 6 feet wide and 10 feet long, with 8 foot ceilings; they are heated by stoves in the corridor. The jail has been repeatedly condemned by the grand jury for insufficient ventilation. One prisoner died in jail in July last under circumstances which warrant the belief that his death was from suffocation.

Prisoners are fed upon beef, mutton, pork, beans, bread, etc., and plenty of it; they are worked on the "rock-pile."

There are five saloons in the city, each paying a license of $500 per annum. There were 3640 kegs of beer, 150 cases of bottled beer and 100 barrels of whiskey shipped into the city last year, as shown by the railroad freight books. There have not been over a dozen cases of prosecution for drunkenness during the last two years.

FIRE ESTABLISHMENTS, etc.—There is a volunteer fire company, a hand engine, a hook-and-ladder truck and a hose cart. The water supply in case of fire is from wells and cisterns, and is supposed to be sufficient. So far this system has answered the purpose satisfactorily. There are two Babcock fire extinguishers in the city, one at the postoffice and one at the hotel.

The loss of property from fire during the past year amounted to $65,000.

There is a city ordinance against gunpowder, etc., being stored within the city limits. There is no inspection of illuminating oils. There are no laws with regard to buildings, in reference to fire. Most of the public buildings were built before the State law, requiring the doors of public buildings to open outward, went into effect, but all are well arranged for escape in case of fire.

Cemeteries and Burials.—There are two cemeteries, about a half mile out from the city; the soil is composed of sand and clay; the graves are dug four feet deep, at which depth the soil is quite dry, the land being very rolling and natural drainage good. The subsoil drainage from the cemeteries is not known to contaminate any spring, well or watercourse.

Physicians are instructed to advise private burial in cases of persons dying of contagious diseases, but no other precaution is taken. A burial permit is required from the cemetery officials before interment.

Public Health Laws, Regulations, Sanitary Officials.—The board of health is composed of the mayor of the city, who is ex-officio president of the board, and of three aldermen selected by him. It is instituted by city ordinance and exercises its authority within the city limits. There is no physician on the board, and no health officer is appointed by it. Inspections are made whether there have been complaints or not. Meetings of the board are held monthly. It is by ordinance invested with the power to make any rules and regulations it may deem necessary to preserve the public health; to define nuisances and make complaint thereof to any police magistrate.

When necessary the board takes cognizance of defective sanitary conditions and especially of the condition of privy vaults, the removal of garbage, the condition of the streets as to cleanliness, and the ultimate disposal of the night-soil and organic wastes.

Chapter 8, sec. 1, of the city ordinances relates to the isolation of persons who are sick with contagious diseases. The board has no power to remove persons sick with contagious diseases to special hospitals. There is a rule that all children shall be vaccinated before entering school, but it is not strictly enforced.

The board does not keep a register of vital statistics. Births, marriages and deaths are recorded in the office of the county clerk as required by the State law. There has never been any epidemic of cholera, small-pox, scarlatina, diphtheria, cerebro-spinal fever or typhoid fever in the city.

Registration and Vital Statistics.—From the records in the county clerk's office the following statistics of mortality, etc., have been compiled for the period between 1878 and 1884, inclusive:

Deaths from—	Year.	Jan	Feb	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Malarial fever	1880	....	..	....	....	....	....	....	....	1	....	....	....
	1881	....	....	....	....	...	....	....	1	1	....	....	....
Typhoid fever	1878	2	....	1	...	....	...	....	....	....	....	....	....
	1879	....	....	....	1	....	....	....	....	....	....	....	....
	1880	2	2	....	...	....	....	....	....	....	....	...	....
	1882	2	2	...	1	....	....	....	....	1	....	...	....
	1883	....	....	1	....	....	...	....	....	....	....	....	....
Cerebro-spinal fever	1880	....	....	....	....	....	....	....	....	....	1	....	....
	1883	1	....	....	....	....	....	....	....	....	....	..	....

Mortality—Continued.

Deaths from—	Year.	Jan	Feb	Mar	April...	May....	June ...	July....	Aug....	Sept...	Oct.....	Nov....	Dec....
Erysipelas	1879	....	....	....	....	....	....	....	....	....	1	....	....
	1880	1	1	....	....	....	....	....	....	....	....	....	....
Dysentery	1878	....	....	....	....	....	....	....	1	....	....	....	....
Diarrhea	1878	....	....	....	....	....	....	1	....	....	....	....	....
	1879	....	....	....	....	....	....	....	1	1	....	....	....
	1880	....	....	....	....	....	....	....	....	1	....	....	....
	1882	....	....	....	....	....	1	....	....	....	....	....	....
	1883	....	....	....	....	....	....	....	....	....	1	....	....
Scarlatina	1883	1	2	....	....	1	1	....	....	....	....	....	....
Diphtheria	1878	....	....	....	....	....	....	....	1	....	....	....	....
	1880	....	....	....	....	....	....	....	....	....	1	....	3
	1882	....	1	....	....	....	....	....	....	....	....	....	....
Croup	1878	....	1	....	....	....	....	....	....	....	....	....	....
Whooping cough	1884	....	....	....	....	....	....	1	....	....	....	....	....
Pneumonia	1878	....	2	1	....	....	....	....	....	....	....	....	....
	1879	....	....	....	1	1	....	....	1	1	....	....	....
	1880	1	....	2	2	....	....	....	....	....	....	....	1
	1881	3	....	....	1	1	....	....	....	....	....	....	....
	1882	1	1	2	....	....	....	....	....	....	....	....	1
	1883	....	....	....	1	1	....	....	....	....	....	....	1
	1884	....	....	1	....	....	....	....	....	....	....	....	1
Phthisis	1878	....	....	1	....	....	....	....	....	....	....	....	....
	1879	....	....	....	....	....	....	....	1	2	....	....	....
	1880	....	....	....	1	....	....	....	....	1	....	....	....
	1881	....	....	1	....	....	....	1	....	....	....	....	1
	1882	....	....	....	....	....	....	....	....	....	....	1	....
	1883	....	....	1	....	....	....	....	....	....	....	....	....
All other diseases of the lungs	1878	....	....	1	....	....	....	....	....	....	....	....	....
	1879	....	....	....	....	....	2	....	....	....	....	....	....
	1880	....	1	....	....	....	....	....	....	....	....	1	....
	1881	....	....	1	....	....	....	....	....	....	....	....	....
	1882	....	....	1	....	....	....	....	....	....	....	....	....
	1883	....	....	....	....	....	....	....	1	....	....	....	....
Diseases of the heart	1878	....	....	....	....	....	....	....	1	....	....	....	....
	1883	....	....	....	1	....	....	....	....	....	....	....	....
Tetanus	1881	....	....	....	....	....	....	....	....	....	1	....	....
	1883	....	....	....	....	....	1	....	....	....	....	....	....
Puerperal diseases	1881	....	....	....	....	....	....	....	....	....	....	1	1

Number of deaths of children, during the same period, stated by months, and given ages:—

Ages.	Year.	Jan....	Feb....	March..	April...	May...	June....	July...	August.	Sept....	Oct.....	Nov....	Dec.....
Under one year	1878	....	....	....	....	....	....	2	....	2	1	....	....
	1879	....	1	1	1	....	....	1	2	....	....	....	....
	1880	....	....	1	2	1	2	2	....	....	1	1	....
	1881	1	....	2	....	1	....	1	1	2	1	....	1
	1882	....	2	....	....	....	2	....	1	1	....	1	1
	1883	1	....	1	1	1	....	1	....	....	....	....	....
	1884	2	1	....	1	....	....	1	1	....	....	....	....
From one to five	1878	1	....	....	....	....	....	....	....	....	....	....	....
	1880	....	....	....	1	....	1	1	....	2	....	....	1
	1881	1	....	....	2	....	....	....	....	....	....	....	....
	1882	....	....	....	....	....	....	....	....	....	....	....	1
	1883	1	....	....	....	....	1	1	....	....	....	....	....
	1884	....	....	....	....	....	1	2	....	....	....	....	....
From five to fifteen	1877	....	....	....	....	....	....	....	....	....	....	....	....
	1878	....	1	....	....	1	....	....	1	....	....	....	....
	1879	....	....	....	....	....	....	....	....	....	1	....	....
	1880	....	1	1	....	....	....	....	....	....	....	....	....
	1881	....	....	....	....	....	....	....	1	....	1	....	....
	1883	....	1	....	....	....	1	....	2	....	....	....	....
	1884	....	....	....	....	....	....	....	1	....	....	....	....

Statistics of births, 1878 to 1834, inclusive:—

Year.	Jan....	Feb....	March .	April ...	May....	June.. .	July ...	August.	Sept....	Oct....	Nov....	Dec ....
1878	4	6	9	3	7	6	6	4	7	15	8	7
1879	8	4	4	2	2	2	4	4	6	8	3	5
1880	5	7	9	1	3	2	11	7	2	8	6	10
1881	7	4	10	6	5	8	6	3	6	....	4	7
1882	9	4	12	6	6	7	8	7	8	6	5	8
1883	10	8	6	6	11	6	6	7	9	6	5	4
1884	7	5	6	4	7	5	5	8	2	3	5	5

Statistics of still-births during the same period:—

Year.	Jan.....	Feb.....	March..	April...	May....	June.. .	July....	August.	Sept....	Oct	Nov	Dec ....
1878	....	1	1	1	....	1	....	....	....	....	....	....
1879	....	....	1	....	....	1	....	....	....	1	....	....
1880	....	....	....	....	....	1	....	....	....	....	....	1
1881	1	....	....	....	1	1	....	....	....	....	1	....
1884	1	....	1	....	....	....	....	....	1	....	....	....

Municipal Sanitary Expenses.—The total municipal expenses of the past year, including interest on city bonds, amounted to the sum of $8,318.76. No separate account is kept of the amount expended for sanitary purposes.

Public Schools.—The total number of scholars registered last year was 400, the average monthly attendance 332, and the average daily attendance, by months, 271; the per cent. of attendance was 82. There is one school with eight rooms. Pupils under 8 years of age are confined to the room from 9 o'clock to 11.30 a. m. and from 1 to 3.30 p. m. They are confined to their seats without change from 30 to 45 minutes. Experience favors two school sessions a day with one long intermission. All but the lowest primary classes sit during recitation, except when it is necessary to use the blackboard. Study outside of school hours is expected of all pupils in the three highest rooms. There is a recess of fifteen minutes in the forenoon and the same in the afternoon. The summer vacation lasts three months. There is no school on Saturday nor on any legal holiday. Exercise in the open air is not compulsory. The sexes study and recite together. No prizes are awarded.

Vaccination has not been made a condition of admission to the public schools. No case of small-pox has occurred in the city for upwards of 15 years. No scholar from any family, a member of which is or has been sick of a contagious or infectious disease, is permitted to attend school without presenting a certificate from the attending physician to the effect that there is no longer any danger of contagion or infection.

A few cases of near-sightedness have been discovered, and are attributed to the poor light. There have been a few cases of itch among the scholars.

Experience here is in favor of mixed schools. The girls oftenest excel, except, perhaps, in mathematics.

The school building is heated by coal stoves. The janitor is supposed to keep the temperature at 70° Fahr. in winter. There is no means of ventilation except by windows and doors, which is quite unsatisfactory, the variations in temperature sometimes causing colds among teachers and scholars. There is no basement. The privy is an ordinary vault, about 60 feet from the school house. The water supply is from wells. There is no place for children to exercise except in open play-ground, and no opportunities for drying clothes when wet coming to school. The play-ground is 120x290 feet, and is kept in order by the janitor; it is level and dry. Thos. Kane's patent folding desks are used and give satisfaction.

Sanitary Survey of Greenville.

By W. A. Allen, M. D., Jas. Gordon, M. D., and John B. White.

Location, Population and Climate.—Greenville, Bond Co., is situated in latitude 38°, 53′, 47″, longitude 89°, 24′, 36″ W. from Greenwich. It was founded in 1814 and incorporated May 24, 1858 as a town, and Aug. 13, 1872, as a city. Its population in 1860 was 1548; in 1870, 1712; in 1880, 1885. Present estimated population, 2000. Estimated population under 5 years of age, 350; estimated number of natives, 1500, of foreigners, 500. Estimated number of persons of European birth, 500; number of negroes, 73.

Topography.—The surrounding country, south, west and east is hilly; to the north and northeast it is level. There is an elevation in the north part of town some 65 feet above the average level of the vicinity. There are no marshes in the vicinity. Altitude above the sea-level of the lowest ravine near by is 510 feet; direction of the ravine, southwest.

The city is bordered by forest lands on the south and west, and by farm lands on the east and north. The site of the city is rolling; the original conformation not changed, nor have the original water courses been diverted or modified. Elevation above the sea-level of the highest, lowest and average level of the town is 618, 510 and 555 feet, respectively. The general surface slope of the city is to the southeast. No part of the city is "made land."

Shoal and Beaver creeks pass by the city; average width of each, 100 and 50 feet, respectively.

Average depth of Shoal creeek, 2 to 3 feet; of Beaver creek 1 to 1½ feet. The sides of these streams are sloping, and during high water Shoal creek is one-half mile wide, and Beaver creek 150 feet. The exposed shore is hard ground; water is clear. Sandy deposits in beds of the streams. At times shoals or flats are laid bare. There are no natural or artificial falls of water near the city. No foul surface drainage or sewage enters these streams.

No part of the city is subject to overflow, and the height of water in wells is not affected by heavy rains. No surface rocks in the vicinity. Character of soil, loam, clay, sand and gravel. When the surface soil is disturbed no malarious effects have been observed. There are gravel streaks through the earth through which the soil water flows. No diseases are believed to be due to the soil or geological formation.

The drift formation is best seen in the vicinity of Greenville. A shaft sunk 3 miles northeast of the city, at the bridge near East fork, passed through 10 feet of yellow clay; below this, blue clay for about 77 feet, when the rock was struck. The creek bank shows 10 feet of red clay with some sand, and then about 30 feet of beds of clay, with some reddish sand, somewhat stratified; blue, sandy clay at bottom. At Greenville the drift extends from the creek to the summit of the hill, a distance of about 100 feet vertically; on top there is a deep, red clay. The road washings disclose beds of coarse sand, pebbles and bowlders. The washings on the hillside filter the sand very much, and towards the bottom there are deposits of very fine clean sand. [See Geological Survey of Illinois, Vol. VI.]

Water Supply.—The water supply is from cisterns on the premises, and from a well at the water-works, one mile from the city. From the water-works water is brought through iron pipes of 6 and 8 inches diameter.

The average daily supply of water to each inhabitant is 25 gallons, and 5300 gallons are supplied to railroads daily.

The water supply from this well seems inexhaustible. It has never been offensive in taste or odor. The city has 4 public watering places and 22 fire plugs supplied from this source. There are no artesian wells.

About 98 per cent. of water used for domestic purposes is from cisterns. The average depth of the few wells in use is 45 feet to the bottom and 39 feet to surface of the water. Cisterns and wells, with few exceptions, are so located as to be free from cesspool and privy contamination. The use of well water has not been productive of sickness. There are no public baths.

Drainage and Sewerage.—The area within the city limits is one mile square, about two-thirds being closely built up. The character and sufficiency of the surface drainage are good. There are no underground drains. Some cellars are liable to overflow in heavy rains. There is no system of sewerage in the town.

Streets, Alleys and Public Grounds.—Average width of roadways of streets, 65 feet; width of sidewalks, 6 feet, these latter being built of plank and brick. There are two miles of streets paved with stone and gravel. Length of unpaved streets 4 miles. Streets are not unduly wet in the spring of the year, owing to the good surface drainage. Roadways are thrown up in centre, with good drainage at sides. There is about 200 feet of stone pavement.

Arrangements for watering streets are by individual subscription, with satisfactory results. Shade trees are planted along the streets; these are hard and soft maple, elm and walnut. The trees are cared for by property owners. No portion of the sidewalk or roadway is laid down in grass.

General width of alleys, 16 feet. The deposit of garbage, ashes, manure, etc., in the alleys is prohibited by ordinance. There are no public parks or open square in the city. One public urinal is provided. There is no danger at railroad crossings, and no lives have been lost from this cause during the past five years.

Habitations.—There are 490 dwelling houses within the city limits, three-fourths of which are inhabited by the owners. The average occupancy of each dwelling is 4 and a fraction. There are ten tenement houses, occupied by two or more families; one of these is over-tenanted.

There are no municipal regulations concerning over-occupancy, nor as to the manner or material of which houses shall be constructed. No houses have been condemned within the last year as unfit for habitation for sanitary reasons. There are no springs, cisterns or wells in basement or cellars, nor any privies.

Ninety per cent. of the dwelling houses are isolated buildings, with sufficient yard room all around them. A few houses have special arrangements for ventilation. Houses that have neither basements nor cellars are properly raised and arranged for sub-ventilation. Some cellars are damp at times, but soon drain off. Cellars are not used for storing fuel, ashes or sweepings.

Garbage and Excreta.—There are no ordinances relating to the removal of garbage, etc. It is removed by individual householders, at their own expense, to Shoal creek, north of the city, whence it is washed away by high water. The removal is not satisfactorily performed, but no nuisance or damage to health has resulted from its improper disposition or removal. Much of it is destroyed by fire. Dead animals are removed outside the city and buried; this disposition is satisfactory.

Seventy-eight per cent. of the houses depend wholly upon privy vaults, none of which are water-tight. There are no regulations concerning the cleaning of them. Twenty per cent. of the people use the dry-earth system.

Markets and Food Supply.—Markets are established by custom, and are not regulated or controlled by the city. There are four market places, open every day except Sunday. There is no system of inspection of them, nor of the grocery stores which deal in fish, fruits, vegetables, etc.

The supply of fresh meat, as to quantity, quality and variety, is ample and good. The supply of meat and vegetables is brought to market in all manner of conveyances, from the immediate vicinity. One-half of the fowls are brought and sold to consumers alive. The supply of vegetables, as to quantity and quality, is good. No fruit or vegetables have been condemned during the past year.

There are no municipal regulations regarding hucksters, peddlers, etc., nor as private markets, hawking on the street. Producers of vegetables, etc., may sell direct to consumers.

The milk supply is good in every respect. Cows are fed on grass, hay, corn and bran. The State laws concerning adulteration of food and drinks are not enforced. No oleomargarine is sold as butter.

Slaughter Houses and Abattoirs.—Animals for city markets are derived from all parts of Bond county. There are slaughtered, annually, for home consumption, in the city and vicinity, 1,000 beeves, 2,100 hogs, and 1,200 sheep. There are none packed or shipped. Animals are not inspected either before or after slaughtering. There have been no animals condemned, but one butcher was fined two years ago for selling diseased meat.

Slaughter houses are erected at private expense. There are no ordinances regulating them. The business is conducted in small establishments, beyond the city limits. They do not drain into covered or open sewers flowing through the city. They are not considered as nuisances in their neighborhood.

Fat and tallow are sent to St. Louis; the blood and refuse fed to hogs kept for that purpose. The meat of these hogs compares favorably with that of corn-fed hogs.

Police and Prisons.—There are two policemen chosen by the city council. These act as inspectors of nuisances. There is one temporary lock-up; both sexes are confined therein. Dimension of cells 8x10 feet. Hall 20x25 feet. Vagrants are kept separate from prisoners only when in cells. The ventilation of the lock-up is not good.

The county jail is within the city limits. Average occupancy, 3. Dimensions of cells 8x10 feet; heated by steam. The diet allowed prisoners is good. No means are provided to prevent indolence.

There are six places in the city where intoxicating drinks may be had. Estimated amount of malt liquor consumed annually, 20,000 gallons; and of distilled spirits, 9,000. Number of cases of drunkenness brought before magistrates last year, 39. License fee, $500.

Fire Establishments, etc.—There is one volunteer fire company organized by the city council. The fire alarm is a telephone from the city clerk's office to the water-works. The city owns one hand fire engine and one hook-and-ladder truck. The water supply for fires is obtained from a well in the south part of town. It is abundant and protects about one-half of the city. There are no "fire extinguishers" in use. Expense of fire department merely nominal. Number of persons enrolled, 30. No loss of life from fire last year and no loss of property. There are no regulations concerning the storage of gunpowder, nitro-glycerine, dynamite and coal oils, the inspection of illuminating oils, nor with regard to buildings in reference to fire. The State law directing doors of public buildings to open outwards is not enforced.

Cemeteries and Burial.—There are two cemeteries within the city limits. One is full of graves and not used for further interments; the other is ten years old and about 15 interments are made therein annually. There is also one cemetery, called "Hazel Dell," one mile north of town. It is not probable that subsoil drainage from any of these contaminates springs, wells or water-courses. Average depth of graves, 6 feet; nature of soil, clay and gravel; the soil is dry at the depth bodies are placed. No vaults in use. No evil effect has been observed from the cemeteries. No extra precautions are taken with regard to the burial of persons dying of contagious diseases.

Burial permits are required. Section 4 of ordinance No. 62 says: "Any person desiring to have any person interred in the cemetery shall first pay to the city clerk, for digging and filling each grave, as follows: For grave three feet long $1.50, for grave four feet long $2.00, and for all other graves $3.00 each; and upon such payment being made the city clerk shall issue a receipt therefor and a burial permit authorizing and directing the sexton to dig and fill such grave. All graves within the cemetery that are three feet long shall be of a depth of not less than four feet, and all other graves not less than six feet."

Public Health Laws, Regulations, Sanitary Officials.—The Greenville board of health was organized by the city council February 27, 1882. Its authority is restricted to the city limits, one mile square. It is a special board, selected by the mayor and confirmed by the city council. Members of board, four, three of whom are physicians. The board has no executive health officer. The assistants to the board are the two policemen and one inspector. None of them physicians. All have police power except the inspector. Inspections are not made unless there is complaint.

The board meets once a month; its powers are specified by ordinance. The board has authority to act at all times independent of the city council; it has power to abate as well as to define nuisances. It takes cognizance of the condition of cesspools and privies; of contamination of water supply; of the removal of garbage, etc.; of methods of burial, and of the ultimate disposition of night-soil and organic wastes.

The board has no power to remove persons sick with contagious diseases to special hospital. There are no requirements respecting vaccination. No measures are taken to restrict contagious and infectious diseases. The board does not register vital statistics. Mortuary report does not show street, block and house number. Births, and deaths become matters of record through the physician's certificates returned to the county clerk. The board does not report causes of death to any one.

Registration and Statistics of Death and Disease.—Burials cannot occur without record of death and burial permit, but there is no local registration of causes of death. No statistics of mortality have been published except from the county records. There were a few deaths from cholera in Greenville in 1852. In 1857 there were 22 cases of small-pox but no deaths. Scarlatina was epidemic in 1870, but was not virulent—about 5 deaths to 100 patients; diphtheria epidemic in 1869 and 1870; cerebro-spinal fever in 1873, causing 20 deaths. Typhoid fever has not been epidemic in 30 years.

All diseases seem less prevalent than formerly. Immigrants from abroad do not suffer from the climate, neither do those from other parts of this country. From such records as are available the following mortality data of the past eight years have been compiled: Deaths from malarial fever in August and October, 1878; October, 1883; and August, 1884 From typhoid fever in March, August, October and December, 1879; May and September, 1880; October and December, 1881; November, 1882; and January, 1883. From cerebro-spinal fever in May, 1878; December, 1880; March, May and December, 1881; and August, 1882. From erysipelas in January and April, 1880; April and May, 1881; and January, February, March and April, 1882. From dysentery in August, 1878; July, 1880; and August and December, 1881. From diarrhea in July, 1878; April, July and August, 1879; January, 1880; March, 1881; and July and September, 1884. From scarlatina in December, 1883. From diphtheria in October, 1883. From croup in September, 1878; December, 1879; March, 1880; and October, 1883. From pneumonia in January and October, 1878; January, 1879; April, 1880; January, February, March, May and December, 1881; January, March and April, 1880; and January and February, 1884; From phthisis in January, 1879; March, 1880; April and May, 1882; November, 1883; and November and December, 1884. From diseases of the heart in November, 1879; May, 1881; April, 1882; April and November, 1883. From diseases of the urinary organs in November, 1879; September, 1881; and May, 1882. From tetanus in April, 1882. From puerperal diseases in March, 1878; December, 1880; January, February and September, 1881; September, 1882; and February, 1884.

Deaths of children under one year of age: 1 in October, 1878; 1 each in March, June and July, and 2 in December, 1879; 1 each in January, March, April and August, 1880; 3 in January, 1 in April, 2 in August, 1 in December, 1881; 2 in January, 1 in March, 2 in April, 1882; 2 in January, 1 in October, 1883; and 1 each in January, March, May, July, August and September, 1884. Between one and five years of age—1 each in October, 1878; March, 1881; January and October, 1884. Between five and fifteen years—1 each in July, 1878; January, August, November and December, 1879; 2 in December, 1881; 1 in November, and 2 in December, 1884.

Number of births by months, during the past eight years, 1877 to 188-, inclusive:

Year.	Jan...	Feb...	Mar...	April...	May...	June...	July...	Aug....	Sept...	Oct...	Nov...	Dec...
1877	....	....	....	....	....	....	....	....	....	....	....	....
1878	5	6	5	7	2	9	3	3	10	4	7	5
1879	7	9	4	1	4	5	4	5	5	4	5	4
1880	8	2	5	3	7	3	7	3	6	7	7	4
1881	8	2	5	3	7	3	3	3	6	7	7	4
1882	6	6	6	7	2	2	7	4	11	5	6	2
1883	7	1	5	5	7	2	6	1	11	7	5	10
1884	11	8	7	5	9	5	2	10	5	6	4	2

In 1883 there were 3 still births recorded—1 each in April, July and December; and 4 in March, 1 in December, 1884.

Municipal Sanitary Expenses.—The total appropriation for sanitary purposes last year was $2,500; estimated expenditures by individuals for drainage $500; for sewerage $300; for paving, trees, etc., $500. The city appropriation was spent on streets, alleys and public drinking fountains, $150 for the latter. The board of health expense for the year was $50. Total municipal expenses during last year $28,000.

Public Schools.—Number of scholars enrolled in 1885, 498; average daily attendance, 458. There are four school buildings and twelve grades, with from 40 to 50 children in each grade. Programmes of study, hours, etc., vary with each grade. Pupils under eight years are confined to the room daily five hours; to their seats not longer than 15 minutes at one time. Two sessions are favored with long intermission and short recesses during each session. Classes all stand while reciting. Lessons are prepared outside of school hours in the intermediate and higher grades; no outside study in primary grades. Time of intermission daily one hour and forty-five minutes. There is a half holiday once a month, one week's vacation in mid-winter, one in spring and three and a half months in summer. Exercise in the open air is compulsory. Competition is not a feature of the school. Both sexes study and recite together. Punishments are few and not reduced to a system.

During the prevalence of small-pox vaccination is strictly enforced; rather lenient at other times. There has never been a case of small-pox in the schools either among scholars or teachers. Scholars from families where contagious diseases are prevailing are not allowed to attend school. This regulation is rigidly enforced. There is very little sickness among the scholars. There are no statistics respecting illness or deaths of teachers or scholars.

Some school desks are placed too far from the seats, children having to lean forward to reach the desk, thus throwing the shoulders forward and injuring the lungs and spine. In the principal's experience of 18 years, he has not known of any disease being propagated in school; but thinks long stairs are injurious to girls. There are some cases of heart disease noticed among anemic and debilitated pupils. There are no records of the frequency of short sight due to defective light, nor of spinal curvature due to improperly constructed desks. The judgment of the principal is that under a good disciplinarian competition among the sexes is perfectly safe.

The public schools are heated by stoves. Colds are often traceable to variations and extremes of temperature. The rooms are ventilated by raising and lowering windows, but this is not satisfactory. Basements are not used for water-closets or for storing fuel; they are ventilated separately from the rest of the building. There are a number of school rooms, and the number of square feet of surface admitting light into them is 192, 72, 48, 48, 84, 108, 60, 60, 60, 60, and 126, respectively. The distance of pupils from the blackboards varies with size of chart, etc. No opportunity is had for shelter from cold and heat on the playgrounds, and no provision is made for drying wet clothing. The playgrounds cover 48,600 square feet; they are not well cared for, and become very muddy in spring. The privies are fairly kept. Patterns of desks used, Andrews and the Excelsior; the single seat is most satisfactory.

SANITARY SURVEY OF SPARTA.

By DAVID S. BOOTH, M. D., assisted by W. J. BURNETT, AARON ALLEN and S. W. HOOD.

LOCATION, POPULATION AND CLIMATE.—Sparta is in the northeastern part of Randolph county, in latitude 38° 10′, longitude 89° 45′ W.; about 50 miles south by east of St. Louis, on the line of the Cairo and St. Louis Narrow Gauge railroad. The town was founded in 1829, under the name Columbus; was incorporated as a city under its present name in 1837.

In 1880, according to the United States census, the population of Sparta was 1,754; the population of the county in 1860, was 17,205; in 1870, 20,859, and in 1880, 25,690. The present estimated population of the city is about 2,000, about two-thirds of whom are native-born and the remainder of European birth. Among the native population are about 75 negroes and mulattoes. No meteorological observations have been taken in the city.

TOPOGRAPHY.—The site of the city and the surrounding country present a gently rolling surface, sufficiently undulating to furnish an effectual surface drainage. There are no marshes or low, moist lands in the vicinity. The average level above the sea is in the neighborhood of 525 feet. The distance of the city from any watercourse is supposed to account for its comparatively light rainfall. The fact that malarial fever is not so prevalent as formerly is due, probably, to the loss of timber and consequent decrease of moisture. The site of the city is not materially changed from the original conformation, the natural surface slope being to the south and east. It is surrounded by cultivated farm lands. There is a grove of eight or ten acres a little to the southeast, and another of about 20 acres southwest of the town. Within the city limits are several artificial ponds, used by mills and factories; during July, August, and part of September the water in these becomes stagnant, but emits no perceptible odor. They are all in good condition but one, which the city authorities have ordered drained.

During the spring rains a small portion of the area within the corporate limits is subject to overflow; but no ill effects to health have resulted. Heavy rains cause a sudden rise of the water in wells, but it soon subsides to the ordinary level.

The surface deposits in this vicinity comprise the three usual subdivisions of the quaternary system, designated as alluvium, loess and drift; and the stratified rocks exposed at the surface include a portion of the lower coal measures, which trend northeast. The surface rocks are of limestone; the soil is loamy, of a chocolate-brown color, with a yellow clay subsoil. (See Geological Survey of Illinois.) There are continuous fissures in the rocks through which the soil-water flows.

No malarial effects have been observed following the breaking up or disturbing of the surface soil, and no diseases are believed to be due to the soil or geological formation.

Water Supply.—About two-thirds of the water-supply is from cisterns, the rest from wells. These are so located as to be free from contamination by the drainage from privies and cesspools. The gathering ground from which well-water is drained is not manured either by night-soil or other excreta; the water has never been offensive in taste or odor, and its use has not been productive of sickness. No disease or case of poisoning has arisen from the use of lead pipes in cisterns. There is no public water-supply, such as artesian wells, baths and fountains; and no water is stored in case of fire.

Drainage and Sewerage.—The area included within the city limits is one square mile, about one-fourth of which is built up. There are two natural water-ways of sufficient capacity to carry off the surface drainage. There is no sewerage system. Most of the cellars are drained, but in some parts of the town they are liable to overflow during heavy rains. There are no swamps or "made lands" in or near the city.

Streets, Alleys and Public Grounds.—The general width of the roadways of the streets is about 60 feet. The sidewalks in the main or business part of town are from 5 to 10 feet wide, in the outskirts 4 feet; about one-eighth are built of brick, the rest of wood. There are some shade trees planted along sidewalks and cared for by individual owners.

There are no pavements, but the streets are graded from the centre to gutters on each side, which in the business part of town are lined with stone. There is no under-drainage and no arrangements for watering the streets. It is the duty of the street commissioner to keep them clean and in good condition. They are not unduly wet in the spring of the year.

The general width of alleys is from 10 to 12 feet. The deposit of ashes, manure, garbage, etc., in the alleys is prohibited by ordinance, and any one making such deposit therein is compelled to remove it. There are no public parks belonging to the city. There has been no loss of life from railroad accidents during the past five years.

Habitations.—There are about 400 dwelling houses in the village, three-fourths of which are inhabited by the owners. There are very few tenement houses, and none that are over-tenanted, the average occupancy of all houses being about five persons. There are no municipal regulations with regard to over-occupancy, or with regard to the material used in, or manner of constructing, houses within the city limits. No houses have been condemned as unsafe during the past year, and none as unfit for habitation for sanitary reasons. There are no springs, cisterns, wells, water-closets or privies in basements.

About five-sixths of the dwelling houses are isolated buildings with sufficient clear space around them. No houses have special arrangements for ventilation. Most of the houses, that have neither basements nor cellars, are properly raised and arranged for sub-ventilation. Some cellars are damp at times, but all are well drained. About one-fourth of the houses have proper facilities for bathing.

Some of the cellars are used for storing fuel, but ashes and sweepings are not deposited in cellars to any extent. No diseases have occurred due to over-crowding or unfitness of dwellings. The fuel used has no injurious influence upon health. The ground under basement floors is usually cemented. No ill effects have been observed from arsenic or any wall paper in sleeping apartments, nor from the wearing of any dyed garments.

Gas and Lighting.—There are no gas-works in the village. The main streets are lighted by gasoline lamps. A city inspector examines all illuminating fluids, kerosene, etc., before the same are allowed to be offered for sale.

Garbage and Excreta.—The ordinance requiring and regulating the removal of garbage, etc., is strictly complied with and proves satisfactory. It requires the householder to remove all kitchen-refuse, ashes, garbage, etc., to the unoccupied lands beyond the corporation limits, whence it is ultimately carried away by spring freshets. Dead animals are also taken to unoccupied lands and buried. About one hundred hogs were so disposed of last year.

All houses depend entirely upon privies (mostly surface.) None of the privy vaults are water-tight. They are examined thoroughly every summer by the city inspector, and if not satisfactory, are made so. No cases of contamination of wells or cisterns by cesspool or privy drainage have occurred. The dry-earth system is largely in use; in the absence of earth, lime is used.

Markets and Food Supply.—The markets are not established by law. There are many private markets and grocery stores in which meats, fish, vegetables and fruits are sold; but they are not under special supervision. There is a sufficient supply of fresh meat, of good quality and variety. No meat or fish has been condemned as unfit for food during the past five years. About three-fourths of the fowls used are sold to consumers alive. The supply of fruits and vegetables, in season, is abundant and of good quality; and this, as well as the meat supply, is largely derived from the immediate vicinity. No fruits or vegetables were condemned last year. Peddlers are required by ordinance to pay a license. Producers may sell direct to consumers without being subject to any tax. About one-half of them avail themselves of this privilege.

The milk supply is good. The cows are fed on grass, hay, corn, bran, etc. Many families own their own cows. There have been no cases of poisoning or acute disease caused by unwholesome food, canned meats, fruits, etc. There has been no cause for prosecution for violation of the State law regarding the adulteration of food, drink, etc., and oleomargarine is not sold as butter.

SLAUGHTER HOUSES AND ABATTOIRS.—Animals for city markets are obtained in Randolph county, largely in the immediate vicinity of Sparta. There are annually slaughtered for city consumption about 250 beeves, 300 hogs, and 100 sheep; none for packing and shipment. They are mostly driven to the place of slaughter. Animals are not inspected either before or after slaughtering. No meat was condemned last year as unfit for food. The slaughter houses are erected at private expense. The business is scattered in small establishments, beyond the city limits. They drain into open waterways, which do not extend through the city. They are not considered as nuisances in their neighborhoods. Each meat shop pays $25 annually for rent of slaughter houses. Animal offal and refuse is fed to hogs kept for that purpose. The "rendering" of animal refuse is not always done on the day that the animal is slaughtered. The meat is cooled in refrigerators.

MANUFACTORIES AND TRADES.—There is a woolen-mill in the town which is considered a nuisance, on account of the discharge of noxious vapors from its dye house, and from its drainage; but no bad results to health have been traced to it. There are none which produce disease in workmen. A few women are employed in the factories. but no children. The employès are required to work from 10 to 11 hours per day. The youngest employed are probably about 17 years old. The nature of the employment is not such as to affect their health. The cubic space and ventilation of the rooms occupied by work people are generally sufficient, and the arrangements for privies generally satisfactory.

POLICE AND PRISONS.—The city marshal is the only police officer. He also acts as inspector of nuisances when the same are reported to him. There is no night patrol after 10 o'clock. There is one temporary lock-up, used for both sexes. The air space is sufficient, the cells being 10 feet wide and 12 feet long. Vagrants are kept separate from other prisoners. There is a privy, which is kept clean, and satisfactorily answers its purpose. There are no jails or houses of correction within the city. No epidemics have ever occurred among prisoners in the lock-up. Prisoners are furnished with an abundant and wholesome supply of food. No provision is made to prevent indolence. There are two saloons in the city. From 30 to 50 cases of drunkenness are annually brought before the magistrate.

FIRE ESTABLISHMENTS, ETC.—Sparta has no fire establishment. The loss of property by fire last year amounted to about $20,000. There are the usual ordinances regulating the storage of gunpowder, nitro-glycerine, dynamite, and coal oils. The State law requiring the doors of public buildings to open outward is not complied with.

CEMETERIES AND BURIAL.—There are no cemeteries in or near the village.

PUBLIC HEALTH LAWS, REGULATIONS, SANITARY OFFICIALS.—The Sparta board of health is composed of the mayor, and four other members selected by him from the city council.* It has no authority, independent of the council, except to define nuisances, which authority it exercises within the corporate limits of the village. It meets only when necessary. Two of its members are physicians. The chief health officer is selected by the council and is not a member of the board; he has no assistants. The board makes inspections and reports all nuisances found to the council.

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*See house-to-house inspection of Sparta, pp. 135-136, preceding, in this volume.

In its inspections it takes cognizance of the removal of garbage and cleaning of private premises; of the condition of streets and alleys, and of the ultimate disposal of night-soil and organic wastes.

Patients having contagious diseases are isolated in all cases. Births and deaths become matters of record only through physicians' reports to the county clerk. The estimated number of inhabitants under one year of age is about 100; between one and five years 300; between five and fifteen, 500. Immigrants from abroad do not suffer from the climate, neither do immigrants from other parts of this country.

Municipal Sanitary Expenses.—The total amount of money appropriated for the last fiscal year for all municipal expenses not detailed and which include all sanitary work was $3,000.

Public Schools.—The total number of scholars registered is 600; average daily attendance, 500. There is one school building containing 5 primary grades, 3 intermediate, 1 grammar and 1 high school. Programmes vary with different grades. Pupils under eight years of age are never confined to the room longer than one hour at a time, nor to seats longer than 30 minutes. Two sessions are favored, with noon intermission of one hour and a recess of 15 or 20 minutes both in the forenoon and afternoon. During short recitations pupils stand; during long ones they are seated. Pupils of high school and grammar school study their lessons outside of school hours. Between 9 o'clock a. m. and 4 p. m. the time devoted to out-door exercise is 90 minutes. There is a vacation of two weeks in midwinter, one of one week in spring and one of four months in summer. Exercise in the open air is not compulsory but is largely indulged in. The sexes study and recite together, but competition is not a feature of the school. Various methods of punishment obtain, such as loss of recess, standing on floor, occasional use of the rod, etc.

A rule that all scholars must be vaccinated before they were admitted to the public schools was first rigidly enforced in 1882, in response to the action of the State Board of Health. This rule is gradually becoming more and more relaxed. No case of smallpox has ever occurred among scholars or teachers either before or since the adoption of the rule concerning vaccination. The attendance of scholars from families where contagious diseases are prevailing is not allowed until ordered returned by physician. About five per cent. of the absences of pupils is due to sickness. In the past 15 years, with an average enrollment of 600 scholars and 13 teachers, one teacher and fourteen scholars have died. The principal observes some cases of sore eyes, probably from chalk dust; and some cases of short-sightedness, but does not attribute them to the effects of school attendance in any way. He also hears of a case of headache once or twice a year. Two cases of spinal disease have occurred among scholars, but it is not known that they were in any manner connected with the school conditions. Four high school scholars, young men and women, have died of consumption during the past 15 years. There has never been an outbreak of any note of contagious or epidemic diseases among scholars. The principal considers large schools, properly cared for, no more liable to propagate disease than small ones. Low desks are thought to have a tendency to cause short-sightedness, round shoulders and weak lungs; and high desks to cause curvature of the spine. No trouble is experienced in treating both sexes alike as to lessons, school hours and sessions.

The school building is located in the central part of town, on high ground, with a good natural drainage. The soil is a light clay. The building is of brick and was erected at a cost of $16,000. It has 3 stories, containing 12 rooms for the use of pupils. It is heated by furnaces, and in winter is kept at a regular temperature of from 68° to 70° Fahr. No sickness is traceable to variations or extremes of temperature. Rooms are satisfactorily ventilated by the Ruttan system in winter; in summer by doors, transoms and windows. The privies are wooden buildings, there being separate ones for each sex. There is no basement to the building. Two wells in the school yard furnish an abundant water supply. The building is well lighted, there being 105 square feet of surface through which light may pass into each room. The distances that scholars stand from charts, maps, etc., are from 4 to 25 feet; the distance is regulated by the objects they are expected to see and the work to be done. There are no opportunities for exercise sheltered from cold or heat. Provision is made for drying wet clothing. The playgrounds are rolling, and comprise an area of 108,800 square feet, shaded by a grove of trees and ornamented by a fountain and flower beds. The superintendent cares for the grounds, trees, flowers, etc. Privy vaults are washed out when it rains. The desks are modern in style and nearly all are satisfactory.

Sanitary Survey of Virden.

By D. O. Morrell, Esq.

Location, Population and Climate.—Virden is situated in the northeast part of Macoupin county on the Chicago and Alton and the Jacksonville and Southeastern railroads; 22 miles south of Springfield; in latitude 39° N., longitude 89° 15′ N. The city was founded in 1852 and incorporated in 1872. Its population in 1860 was 1200, in 1870 it was 1416, in 1880 it was 1608, and the present estimated population is about 1800. The present estimated population under 5 years of age is about 250. The estimated number of natives is 1350 and of foreigners, 450. There are 200 foreigners of European birth and 55 negroes and mulattoes.

Topography.—The surrounding country is level, slightly undulating. The altitude of the city above the sea level is about 775 feet. The ravines in the vicinity trend northeast. The site of the city is also level, slightly undulating, with a general surface slope toward the northeast. Two small brooks, each about 5 feet wide, pass through the city; the sides of these streams are gradually sloping; the water is foul, as the drainage from the streets passes into them.

There is no surface rock. The strata in the order of their succession, from above downward, are: black loam, yellow clay, sandstone. The rock strata dip northeast at an angle of 2 degrees. The surface soil is black loam. Malarious effects have been observed when the surface soil is disturbed.

Water Supply.—The water supply is derived chiefly from wells and cisterns. The depth of the wells is 20 feet; to surface of the water, 10 feet. They are so located as to be free from cesspool or privy contamination owing to distance.

Drainage and Sewerage.—There is an area of 640 acres included within the city limits, about one-half of which is built up. The surface drainage is into two small brooks, which are sufficient to insure good drainage. In addition there are 1,500 rods of tile laid within the city limits. The tile is laid at a depth of 3 feet, with a fall of 2 inches to the rod. There are no swamps, areas of "made land," or places saturated with water near or in the city that are undrained. The cellars in some parts of the town are liable to an overflow of water in heavy rains, but are generally protected by tile drainage. There is no system of sewerage.

Streets, Alleys and Public Grounds.—The general width of the roadway of the streets is 52 feet; the general width of the sidewalks is 8 feet. Sidewalks are made of plank. There are no paved streets. There 4,000 rods of streets unpaved. The soil is black loam. The streets are quite wet in the spring of the year. The roadways are graded. There are no arrangements for cleaning and watering the streets. Soft maple and ash shade trees are planted along the streets. These are cared for by individual property owners.

The general width of the alleys is 15 feet, and deposits of ashes, manure, garbage, etc., in them are forbidden by an ordinance. Two public parks belong to the city and are located within the limits. One contains three, and the other two acres, and they are kept in good condition.

Habitations.—There are 400 dwelling houses within the city limits, of which about two-thirds are inhabited by the owners. The average occupancy of each dwelling is between 4 and 5. About one-third are tenement houses, and although no municipal regulations exist respecting over-occupancy, yet there are no houses over-tenanted There is an ordinance concerning the material and the manner of construction of houses within the city limits, and this ordinance is enforced. About 90 per cent of the dwelling-houses are isolated buildings with sufficient yards. There are no houses in which special arrangements are made for ventilation. Houses that have neither basements nor cellars are properly raised from the ground and suitably arranged for sub-ventilation. Cellars are damp only in wet seasons. Soft coal of home production is used for fuel, and it is not thought to have any deleterious influence upon health.

Gas and Lighting.—The city is not lighted by gas. There is an ordinance which provides for the inspection of all illuminating fluids, and no accidents have occurred from this source within the past 5 years.

Garbage and Excreta.—Garbage, ashes, etc., are removed by private contractors once a year or oftener, at an estimated aggregate cost to the householders of $800. It is generally thrown on the "commons," but about 75 per cent ot the total production of garbage is destroyed by fire annually. Dead animals are burned or buried, and this manner of disposal is considered satisfactory. In no case is the kitchen and laundry waste-water delivered into cesspools on the premises. No cesspools exist. Absorption drains under the surface of the soil are used to the extent of about 25 per cent. All houses depend wholly upon privies. None of these are water-tight, but no cases of contamination of wells or cisterns by privies have been reported.

Markets and Food Supply.—The private markets and grocery stores in which meats, fish, vegetables and fruits are sold are not under any municipal supervision, but these supplies are abundant and good. About 75 per cent. of these supplies are derived from the immediate vicinity. About 50 per cent. of fowls are sold alive. Producers may sell direct to consumers without tax or municipal supervision as to quality of goods, and about 5 per cent. of the supplies are thus sold. The milk is good, as the cows are fed on grass in summer and on dry feed in winter.

Slaughter Houses.—Animals are obtained for the city markets from the neighboring farmers and there are annually slaughtered for city consumption 300 beeves, 500 hogs, 250 sheep. These are driven to the places at which they are to be slaughtered and killed by the knife. Murraine in all stages in cattle, cholera in all stages in hogs and fowls, and foot-rot in all stages in sheep have been observed as diseases which render the flesh of these animals injurious as food. The refuse of the slaughter house is fed to hogs kept for the purpose. The "rendering" of the fat, tallow, etc., is not always done on the day on which the animals are slaughtered. The meat is cooled by exposure to the air.

Manufactories and Trades.—There are no manufacturing establishments within the city limits or in the suburbs, which are nuisances. The principal industries are coal mining and tile manufacture.

Police and Prisons.—The police force consists of one city marshal, who does not act as inspector of nuisances, and there is one night patrol. There is one temporary lockup—both sexes are confined therein. The average number of prisoners is about one per month, and there are never more than six persons confined in this institution at once. There are no single cells. Ventilation is effected through grated windows. The privy is in the rear of the building. Prisoners in the lockup are allowed ordinary diet. No licenses for the sale of intoxicating drinks have been granted since 1874.

Fire Establishments, etc.—The water supply for fire purposes is obtained from wells, private and public. The fire establishment is a volunteer organization. No persons are regularly employed and the annual expenses are merely nominal. The storing of gunpowder, fire-works, nitro-glycerine, benzine, gasoline or other explosive material in any storehouse or other building fronting on the public square, or in any building in any place within one block of the public square, is prohibited; and any person guilty of violating the ordinance may be fined not less than $1 nor more than $10, and for subsequent offense not less than $10 nor more than $100. Merchants, however, are allowed to keep on hand in their stores gunpowder in quantities not greater than 50 pounds, and benzine in quantities not greater than 5 gallons, to be kept in safety cans.

Cemeteries and Burial.—There is no cemetery within the city limits, but there is one a mile and a half distant. The average depth of graves is 4 feet, and the clay soil in which the graves are dug is dry at that depth. No vaults are used.

Public Health Laws, Regulations, Sanitary Officials.—There is no special board of health established, but an ordinance, passed in 1873, provides for fines on persons who shall import infectious or contagious diseases, or who shall keep certain nuisances, such as a foul pig-sty, filthy stable, privy, etc. This ordinance gives the mayor power to act as health officer in all outbreaks of epidemic diseases, and defines certain methods of quarantine.*

Public Schools.—The total number of public scholars registered is 500 and the average attendance is 450. There are 9 grades of 50 pupils each. There are two sessions daily, composed of study and recitations. Pupils are not confined to the class-rooms longer than 90 minutes. Experience is in favor of two sessions with one long intermission. The classes sit during recitation. The actual length of time devoted each day to out-door exercise and recreation is one hour and a half, but such exercise is not compulsory. The sexes study and recite together. The method of correction used is suspension.

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*Ordinance No. 15.—An ordinance to prevent the engendering and spreading of disease. Section 1. Be it ordained by the City Council of the city of Virden, That any person, company, or corporation, who shall carry on within the city limits any business which shall in its effects be injurious to the health of any neighborhood, shall, upon conviction, be fined in any sum not less than ten nor more than two hundred dollars, and five dollars for each day that the same may be continued after conviction.

Sec. 2. Any person owning or keeping any pig-sty, stable, privy, or other building or place, who shall permit the same to become foul and offensive to any person in the neighborhood, shall, upon conviction, be fined in any sum not less than one nor more than twenty-five dollars, and two dollars for every day that they shall permit such pen, building or place to remain in a filthy condition after such conviction.

Sec. 3. Any person who shall knowingly import any contagious disease into said city shall, upon conviction, be fined in any sum not less than ten nor more than two hundred dollars.

Sec. 4. Whenever it shall be definitely ascertained that any person or family in said city have contagious disease, the mayor shall issue his proclamation setting forth the facts of the case and forbidding all unauthorized persons from going on the premises occupied by such infected persons, and forbidding all such infected persons from leaving said premises until all danger from such infection shall have passed away, and shall cause such premises to be so designated by flag or placard, that strangers may be warned from entering thereon. And the mayor is hereby authorized to make temporary provision for the care of any such family or person until such time as the council can be convened to take action on the matter, and he shall furnish the council, when so convened, a full statement of his action in the premises and make such recommendation for the future as he may think proper.

Sec. 5. Any person who shall, in violation of the proclamation of the mayor, made as hereinbefore provided, leave any such infected premises, or go upon the same (being unauthorized) until after the attending physician shall have filed with the city clerk a certificate that there no longer exists any danger from such premises or person, shall, upon conviction, be fined in any sum not less than five nor more than two hundred dollars.

Sec. 6. Any physician who shall fail to file with the city clerk a statement of the existence of any pestilential or contagious disease within the city limits within six hours after he shall have discovered the same, stating fully the kind of disease, the name of the person infected, and the particular locality in which such person resides, shall, upon conviction, be fined in any sum not less than ten nor more than two hundred dollars.

Sec. 7. It shall be the duty of the clerk, immediately upon the receipt of such notice, to transmit a copy thereof to the mayor, or, in case of his absence or inability to attend to the case, to any two aldermen, who shall at once proceed to issue proclamation and make such other arrangements as may be necessary, as hereinbefore provided for.

Sec. 8. All necessary expenses for nurse hire or otherwise, made under direction of the mayor or council, in cases of contagious diseases, shall be paid out of the city treasury from the contingent fund, but shall be collected from the person for whose benefit the same was made, except in such extreme cases as the council shall determine should be borne by the public.

Passed April 2, 1873.

Although there are no restrictions with reference to vaccinal protection as conditions of admission, yet no cases of small-pox have occurred among pupils or teachers at any time. Scholars from families in which contagious or infectious diseases are prevailing are excluded from the school under the following:—

*SECTION 6. No pupil affected with any contagious or infectious disease shall be allowed to remain in the public schools, nor be readmitted without a physician's certificate that the danger of spreading the disease is past.

The school buildings are heated by stoves. The mean temperature of the school rooms is 75 degrees in winter. No sickness is traceable to variations or extremes of temperature. There are annually consumed for heating purposes 2,700 bushels of soft coal. The rooms are ventilated in summer and in winter by the windows and this ventilation is not satisfactory. The basement is not used for water-closets, earth-closets or for storing fuel. It is not ventilated separately from the rest of the building. The water supply is from wells and is abundant and good. The school rooms are not sufficiently light, as the number of square feet through which light passes into each room by windows is only 80. The distance of pupils from blackboard, maps or charts on which they are expected to read letters or figures is from 2 to 8 feet. There are no opportunities for pupils to exercise sheltered from the cold, heat or wet. Pupils dry clothes when wet coming to school by standing near the stove. The desks used are of an improved pattern and are considered satisfactory.

SANITARY SURVEY OF CARTHAGE.

By W. F. VEATCH, M. D., O. F. BERRY, Mayor, Col. JOHN ELDER, Chief of Fire Dept., R. J. CAREY, Special Inspector, the Secretary of the School Board, and the Principal of the Public Schools.

LOCATION, POPULATION AND CLIMATE.—Carthage, the county seat, is situated in about the geographical center of Hancock county, in latitude 40 25′ N., longitude 91° 30′ W. It is the junction of the Toledo, Wabash and Western, the Carthage and Burlington, and the Quincy and Carthage railroads—being 180 miles from Chicago, 200 miles from St. Louis and 12 miles east of the Mississippi river at Keokuk. The town was founded in 1833 and resurveyed in 1838, incorporated as a town under a special act in 1867; organized as a city under the general law April 17, 1883.

The population of Hancock county has not materially changed within the last ten years. In 1860—according to the United States census reports—it was 29,061; in 1870 it had increased to 35,935; and in 1880 it is given at 35,337. In 1870 the population of Carthage was 1.500; in 1880 the population of the township, according

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*Rules and Regulations, Public Schools of Virden, 1883.

to the tenth census, was 2,679, including 1,594 in the town. The present estimated population is about 1,600, the large majority being of native birth. Of this number probably 220 are under 5 years of age. There are no negroes, mulattoes or Asiatics.

Topography.—The surrounding country is gently undulating. There are no considerable hills in the vicinity. Two and one-half miles south of the city is what is called the "Meadow Slough," one-half mile wide and from 5 to 6 miles in length. All the surroundings, except the slough above mentioned, are apparently conducive to health. The city is surrounded by farming lands. The site, like that of the surrounding country, is undulating. The original conformation has not materially changed, nor have any water-courses been diverted, covered or modified. Elevation above the sea level of the highest point in the city is about 500 feet; lowest, 480 feet; average, about 490 feet. The general surface slope of the city is to the north and south from the centre. No part of the city is "made land." Long creek passes in an easterly direction, one mile north of the city; its average width is 30 feet. It ceases to flow in dry weather, and water then stands in pools. The sides of the stream are rather steep. The amount of land subject to inundation during heavy rains is about 500 feet in width. The exposed shore ground is hard. The water of the creek is foul after rains, the source of fouling being the washing and drainage from surrounding farms. The shores of the stream are subject to slight deposits of sand. There are no natural or artificial falls of water in or near the city. Small ravines pass on either side of city, which carry off all surface drainage. During the summer months the water in Long creek becomes stagnant, and to a slight degree emits a perceptible odor. No part of the city is subject to overflow. During rainy weather the wells fill to within a few feet of the surface.

The site and vicinity belong to the carboniferous period. The surface rocks are limestone and geodes. The surface soil is vegetable mold, from 10 to 30 inches in depth; beneath this is the drift deposit, which varies in thickness from twenty to sixty feet or more. This consists of a bed of blue clay or "hard pan" at the bottom, overlaid by brown clays, with gravel and bowlders of waterworn rock; in the brown clays are thin beds of sand presenting a stratified appearance, which serve as channels for the ground water. On Long creek there are outcroppings of coal, from 12 to 18 inches thick; but the coal in this portion of the county appears "to exist only in detached outliers, and probably occupies shallow depressions in the concretionary limestone."*

Malarial effects, when the surface soil is disturbed, are not as much observed as formerly. No diseases are believed to be due to the soil or geological formation.

Water Supply.—The water supply is from wells and cisterns. There are no artesian wells, but cistern and well water are used exclusively. The source of the well water is described in the remarks on the geological formation above given. Usual depth of wells to bottom is from 16 to 25 feet; to surface of the water is from 4 to 16 feet. As a rule they are all located so as to be free from contamination by cesspool or privy, most of them being over 60 feet distant from such places. The use of well water has not been observed to be productive of sickness.

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* Geological Survey of Illinois, Vol. I.

Drainage and Sewerage.—The area included within the city limits is one and one-half square miles. About one-fourth of this area is built up. The surface drainage is good. There are tile drains through nine blocks, placed at a depth of nine feet, with a fall of one foot to the block. There are no swamp areas in or near the town. There are very few underground cellars and none liable to overflow. There is no system of sewerage.

Streets, Alleys and Public Grounds.—The average width of the roadways of streets is 65 feet; of sidewalks in the business portion from 8 to 12 feet, and in the residence portion 4 feet. Sidewalks are of wood. Streets do not differ in healthfulness or comfort owing to direction. There are no paved streets. The total length of streets unpaved is 15 miles. Streets are not unduly wet in spring of the year, the roadways being graded high in the centre, sloping to gutters and under-drained in the business portion by tile. There are about 20 miles of wood sidewalks; none of stone, asphalt or concrete.

Streets are cleaned by city authorities but watered by private individuals, with satisfactory results. Shade trees are planted along the streets, from 12 to 20 feet apart; the varieties are elm, soft and hard maple, ash and box-elder. They are cared for by the corporation. No grass plats laid down on the sidewalk or roadway.

The general width of alleys is 20 feet. Ashes, manure, garbage, etc., are not allowed to be deposited in the alleys or accumulated on lots. Every householder must keep his own premises clean and free from such accumulations. There is one public park in the city —area one block. There are several open squares in the city, the area of each being 380 square feet. The public park and open squares are kept in good condition. There are wells of good water in the park. There is one public urinal. No lives have been lost at the railroad crossings during the past five years.

Habitations.—There are about 320 dwelling houses within the city limits. None is over-tenanted and there are no municipal regulations concerning over-occupancy. There is a fire limit, within which no wooden buildings are allowed to be erected. No houses have been condemned during the past year as unsafe or unfit for habitation for sanitary reasons. No houses or other buildings have privies in cellars or basement, except the county jail, and none have a water supply in basement.

All dwelling houses are isolated and have good clear space all around them. Some recently constructed dwellings have special arrangements for ventilation. A few tenement houses, having neither basement nor cellar, are not properly raised for sub-ventilation. About a dozen cellars in the city are damp and insufficiently drained. A few cellars are used for storing fuel; none for ashes or sweepings. No diseases have occurred due to over-crowding or unfitness of dwellings. The ground under basement floors is cemented. Usual height of buildings two stories. No ill effects have been noticed from arsenic or any wall paper in sleeping rooms nor from the wearing of dyed apparel.

Garbage and Excreta.—Ordinances require the removal of garbage, etc., upon the order of the mayor, and such orders are promptly complied with. Kitchen refuse is not required to be removed in closed vessels. Garbage, ashes, etc., are removed by private individuals or by the city at the householders' expense. They are taken out of the city to a large ravine, and removed weekly during the summer. A large amount of garbage and refuse is destroyed by fire. Dead animals are required to be removed one mile from city and buried; this disposition is satisfactory.

Nearly all kitchen and laundry waste-water is thrown into open drains. There are no cesspools and no absorption drains under surface. There are no water-closets in houses and but few deep privy vaults. Privies are examined often by an inspector. A few are built over open ravines. No cases of contamination of wells or cisterns by privy or cesspool drainage are known. The dry-earth system is largely in use.

Markets and Food Supply.—Markets are established by custom. There are two meat markets and eight provision stores, open from 5 a. m. to 10 p. m. daily, except Sunday. The market buildings are not public property or sources of revenue to the city. The same system of inspection of markets obtains as prevails for the rest of the city. There are no officers charged with the inspection of food and markets. The supply of fresh meat is in all respects good. No meat or fish has been condemned during the past year. Fresh meat is brought from slaughter houses, one mile distant. The supply of vegetables and fruits, as to quantity and quality, is good. All of it is derived from the immediate vicinity. No fruits or vegetables have been condemned during the past year. Producers may sell direct to consumers without being subject to any tax; but very few so dispose of their products. The milk supply is good; many families keep cows. There have been no cases of poisoning or acute disease caused by unwholesome articles of food, canned meats, vegetables, etc., and there has never been a case of prosecution under the State law concerning the adulteration of food, drink, etc. Oleomargarine and analogous substances are not sold as butter.

Slaughter Houses.—Animals for the city markets are obtained from the surrounding farms. There are slaughtered annually for home consumption 200 sheep, 300 beeves and 1500 hogs. Animals are not inspected before or after slaughtering. Slaughter houses are built at private expense. No packing is done in the city. Slaughtering is done in two establishments beyond the city limits. They drain into an open ravine, which flows into Long creek. They are not considered nuisances in their neighborhood. Fat is sold in the market, and the blood and refuse are fed to hogs kept for that purpose, and which, after fattening, are shipped to foreign markets. The "rendering" is done on the same day that the animals are killed.

Manufactories and Trades.—The only manufacturing establishment within the city limits is a creamery. It is not considered a nuisance. There are no restrictions imposed on it. It does not pollute any water supply nor produce disease in any known way. No women are employed.

Hospitals and Public Charities.—There are no hospitals or asylums in the city. The county almshouse is one mile away and presents no features of interest. There are no free dispensaries and no physician is employed for the poor.

Police and Prisons.—One man constitutes the police force and acts as night patrol. There are no temporary lockups, the county jail being used for this purpose. Both sexes are confined therein. Very few arrests are made in the city. The air space per head for average occupancy of the jail is abundant. Single cells are 6x8 feet. Vagrants are kept separate from other prisoners. The jail water-closets are connected with the sewer running to a ravine. The board of supervisors pay for medical attendance upon prisoners. The average occupancy of jail is eight. The building is heated by stoves. No epidemics have ever occurred among the prisoners. A plain substantial diet is allowed the prisoners. No industries are provided for them. There are no houses of prostitution in the city, but many private prostitutes. There are no places where intoxicating liquors are sold. Liquor is only sold at the drug stores on physicians' prescriptions. There is an ordinance forbidding the sale of liquor except on prescription, but every druggist in the city has been fined for violating the same. The quantity of malt liquor consumed annually in the city is very small. About 25 cases of drunkenness were brought before the magistrate last year. Hancock county is famous for its pure native wines, which are very generally drunk to the exclusion of spirituous and malt liquors.

Fire Establishments, etc.—The fire establishment is a volunteer organization. The only alarm is a fire bell. It answers its purpose. The equipment consists of one chemical engine, one hand fire engine, one hook-and-ladder truck, and one hose carriage. Water supply is derived from wells and cisterns. The Babcock fire extinguisher is in general use. The annual expense of the fire department is about $50. Number of persons employed 40. There was no loss of life from fire last year; loss of property, $3,500. No fires due to dangerous fluids last year; one fire due to carelessness and one supposed to be incendiary. There are no regulations concerning the storage of gunpowder, nitro-glycerine, dynamite and coal oils. No measures are taken to insure the inspection of illuminating oils. There is a city inspector whose duty it is to report all defective buildings. Public buildings erected since the passage of the State law requiring doors to open outward, are so constructed.

Cemeteries and Burial.—There is one cemetery in the city limits, and about 25 interments are annually made therein. A second, and the principal, cemetery is about one mile north of the city. It is not probable that the subsoil drainage from the land of these cemeteries contaminates any watercourses or wells. The average depth of graves is five feet; nature of soil, clay. In the cemetery out of town the soil is dry at the depth at which bodies are placed; in the other one it is not. No vaults are used. No nuisance or evil effect has been observed from either of the cemeteries. No extra precautions are taken with the burial of persons dying of contagious diseases. There is no receiving vault. Burial permits are not required.

PUBLIC HEALTH LAWS, REGULATIONS, SANITARY OFFICIALS.—There is no board of health,—the town board of supervisors acts as such *ex officio*. The members are elected for one year, and serve without salary. There is no physician on the board. It meets once a month, and has authority to abate as well as to define nuisances. The board acts on the reports of the special inspector. There are no regulations as to isolation of patients having contagious diseases.

[On receipt of Circular No. 1, State Sanitary Survey series, in July, 1884, the following notice was issued:

To the Citizens of Carthage.

At a recent meeting of the STATE BOARD OF HEALTH, held in Springfield, July 2d and 3d, 1884, the following resolution was adopted:

> *Resolved*, That, while epidemic cholera may be excluded from this country by thoroughly enforced quarantine regulations, yet the best attainable sanitary condition of every locality in the State should be secured, so that in the event of Asiatic cholera effecting an entrance, notwithstanding quarantine, the disease may be met and fought under the most favorable circumstances; and the Secretary is, therefore, hereby authorized to take such action as in his judgment will most promptly obtain a thorough sanitary organization of the State, and the adoption and enforcement of the measures necessary to improve its general sanitary condition.

In conformity to the above the Secretary of the STATE BOARD desires that all cities shall be thoroughly cleaned. It is not likely that the cholera will reach our country this season, but it may. It should be remembered that everything which is done in the direction of sanitary improvement benefits the general health of a city and prevents epidemics of any kind. It is therefore obvious to all that nothing in this line should be left undone that can be done to prevent sickness in our city. In this view of the matter, the present authorities are determined to have the city thoroughly cleaned at once. Night soil, garbage, and all other forms of decomposing organic matter are highly prejudicial to health, and their foul odors are indications of danger.

Clean streets and alleys, and gutters properly drained and kept free from unsightly and filthy accumulations, are of even greater importance during the heat of summer than at other times. The healthy condition of the atmosphere of a locality largely depends upon the condition of its thoroughfares.

The foundation of healthy living is, obviously, the individual home and its surroundings. Houses, cellars, yards and out-buildings should be carefully inspected, and all accumulations of garbage, refuse and filth of every description should be removed, or, where this is not practicable, they should be rendered harmless by appropriate treatment.

Therefore, it is earnestly requested that *at once*, upon receiving this notice, all persons will carefully examine their premises, viz: Barns, pig pens, chicken houses and *privies*, and if they are not already well cleaned, to see that they are thoroughly cleansed. All manure piles in barn lots or alleys adjoining your premises should and *must* be removed. Let us do this at once and save health, and even life itself.

Within five days after this notice is received the proper officer will examine all such places as are named above throughout the city, and where the same are in a bad condition, and the request in this notice has not been fully complied with, the ordinances will be *promptly and impartially* enforced.

O. F. BERRY, *Mayor.*

CARTHAGE, ILL., July 18, 1884.

The examination and inspection as announced were duly made, and under date August 22, 1884, Mayor Berry wrote the STATE BOARD that, as a result, at least 1,000 loads of refuse, garbage, night-soil, etc., had been removed from within the city limits and buried or otherwise properly disposed of; drains, cellars and privies had all been cleaned and the city was in a good sanitary condition.

During the spring of 1885 this was repeated and a thorough house-to-house inspection was made. July 9, 1885, Mayor Berry writes, "all things that would in any way tend to cause or increase disease have been removed, and our city is as clean as it well can be. I assure you that it will be kept in first-class sanitary condition in every respect."]

There are no local requirements concerning vaccination, but the rules of the STATE BOARD OF HEALH are enforced. No measures are taken to restrict contagious or infectious diseases. The board does not register vital statistics. Births and deaths respectively become matters of record by the reports of physicians to the county clerk.

REGISTRATION AND STATISTICS OF DEATH AND DISEASE.—Burials occur without record of death other than that filed with the county clerk. There is no local system of registration of causes of deaths. Neither cholera, small-pox, nor scarlatina has ever been epidemic in the city. Diphtheria was epidemic in 1881, but not virulent. Cerebro-spinal fever and typhoid fever have never been epidemic.

PUBLIC SCHOOLS.—The total number of scholars registered last year was 419. There is one building having eight grades and one high school department. Programmes vary with each department. Pupils under eight years of age are confined to the school room daily for 4 hours; to seats without change never longer than one hour.

Two sessions of school are favored. Classes sit during recitations. One and one-half hours are devoted to out-door exercise between the opening of school in the morning and the close in the afternoon. Exercise in the open air is not compulsory. Competition is not a feature of the school. The method of correction employed is moral suasion.

Vaccination was strictly enforced during the first year of the order of the STATE BOARD OF HEALTH, but no attention has been given to it since then. No cases of small-pox have ever occurred among either teachers or scholars. Attendance of scholars from families in which contagious diseases are prevailing, is not allowed. There are no statistics relative to illness or death of teachers and scholars.

The location of the school building is not of the best. It is at the foot of a long slope where subsoil drainage must flow beneath it. The grounds are not large enough. It is heated by hot-air furnaces. No sickness has been traced to variations and extremes of temperature. Fuel consumed annually, about 1,800 bushels of coal. The rooms are ventilated by lowering windows. The privies are kept in good condition. The basement is used for storing fuel, and is ventilated separately from the rest of the building. The water supply is derived from good wells, and is abundant. School rooms are lighted by about 110 square feet of surface. During recitations from blackboards, maps, or charts, the children sit or stand at "moderate" or easy reading distances from such board, chart or map. There are opportunities for pupils to exercise, sheltered from the cold, heat or wet, and without exposure to air contaminated by privies. There are also opportunities for drying clothes when wet coming to school. The play grounds—one for the boys and one for the girls—are much too small, but are well-drained. Wooden desks and seats are used, and are satisfactory.

Sanitary Survey of Camp Point.

By Samuel Mileham, M. D.

Location, Population and Climate.—The town of Camp Point is in Adams county, twenty-two miles northwest from Quincy, at the junction of the Chicago, Burlington and Quincy with the Toledo, Wabash and Western Railroad. It is in latitude 40° 1′ N., longitude 14° 31′ W. The town was founded in 1855. The population in 1870 was 1,250; in 1880, 1,231, and its present estimated population is 1,400. There are only five persons of European birth and three negroes in the city. No meteorological observations have been kept.

Topography.—The surrounding country is undulating. There are no hills, marshes or low lands near the city. The trend of the lowest ravine or valley near by is southwest. The town is surrounded by grass lands and farms.

The site of the city is gently undulating. The original conformation of the site has not materially changed, nor have original water-courses been diverted, covered or modified. The general surface slope of the place is to the southwest, and no part of it is "made land." No streams of water pass by or through the city. There are no surface rocks in the neighborhood, the underlying strata from above downward being mould, yellow clay, blue clay. The clay is almost impervious. The surface soil is black loam, and no malarial effects have been observed when it is disturbed.

Water Supply.—The water supply is derived wholly from wells and cisterns. Character of soil in which wells are sunk is black loam and clay; usual depth of wells 16 to 25 feet.

Drainage and Sewerage.—The area included within the corporate limits is one mile square, only four blocks thereof being closely built up. The entire surface drainage is very good, being well supplied with open ditches. In some parts of the town the cellars are liable to overflow in heavy rains. There is no system of sewerage.

Streets, Alleys and Public Grounds.—The average width of the street roadways is 50 feet and of sidewalks 8 feet. Sidewalks are paved with pine lumber. There are no paved streets. Total length of streets, unpaved, about 10 miles; character of soil in the streets, black loam; streets are quite wet and muddy in the spring of the year. The roadways are high in the centre, sloping to the gutters; many of them are underdrained. There are about five miles of wooden sidewalks. Maple shade trees are planted along the outer edge of sidewalks. They are cared for by the corporation. The average width of alleys is 20 feet. The deposit of ashes, manure, garbage, etc., therein is forbidden. They are cleaned by lot owners on the order of the health officer.

HABITATIONS.—There about 300 dwellings within the corporate limits, about two-thirds of which are occupied by their owners. There are 10 tenement houses, but it is not considered that any of them are over-tenanted, although there are no municipal regulations concerning over-crowding or the construction of buildings. Ninety per cent. of the dwellings are isolated buildings, with yard space all around them. None of them have special arrangements for ventilation. About one-fourth of the houses that have neither basement or cellar are not properly raised for sub-ventilation. There are a few cellars in the level portion of the city which are damp and insufficiently drained. About 5 per cent. of dwellings have proper bathing facilities.

GAS AND LIGHTING.—The town is not lighted by gas. No precautions are taken to ascertain the grade, and no restrictions exist on the sale, of illuminating fluids. No accidents or explosions have occurred from the use of such fluids during the past five years.

GARBAGE AND EXCRETA.—There is no special law on the subject of the removal of garbage and excreta, but it is removed two or three times a year by, and at the expense of, the corporation, and thrown into a ravine outside of the city limits. About 25 per cent. of the garbage is destroyed by fire. Dead animals are burned or buried outside the city limits. All dwellings depend almost wholly on privy vaults, none of which are water-tight. They are cleaned only when they become offensive. It is not known that wells or cisterns are contaminated by privy or cesspool drainage. About 1 per cent. of dwellings are provided with the dry-earth system.

MARKETS AND FOOD SUPPLY.—The markets are all private establishments, under no supervision. The supply of fresh meat, as to quantity, is abundant; as to quality, fair; price low. Meat and vegetables are derived from the immediate vicinity, about 75 per cent. of fowls are sold to consumers alive. The supply of vegetables and fruit is abundant and good, and is derived wholly from the immediate vicinity. They are allowed to be offered for sale without regard to quality. Producers may sell direct to consumers without payment of any tax, and 50 per cent. of them so dispose of their products. The milk supply is good, nearly every one owning his own cow. The State law concerning the adulteration of food and drink is not enforced.

SLAUGHTER HOUSES.—Animals for the village consumption are obtained from the immediate neighborhood. There are annually slaughtered for this purpose 200 cattle, 500 hogs and 100 sheep; none for shipment. They are not inspected either before or after slaughter. The business is scattered in small establishments, all outside of the city limits but one. They are not complained of as being nuisances. Meat is cooled in refrigerators.

Police and Prisons.—The police force is embraced in one village constable, who acts as inspector of nuisances. There is one temporary lock-up wherein both sexes are confined. Average occupancy 1 in 40 days. Dimensions of single cells 7x7 feet, 8 feet high. There are no places in the city where intoxicating drinks are sold.

Cemeteries and Burial.—There are no cemeteries within the corporate limits and but one near by; number of graves therein 500, with 20 annual interments. The graves are dug in a clayey soil to the depth of 3 feet and are dry. No vaults are in use. Burial permits are not required.

Public Health Laws, Rdgulations, Sanitary Officials.—The board of health is composed of the board of village trustees, acting *ex officio*. It numbers three, whose terms of office are for one year and without salary. They make inspections only on complaint; have no authority to remove persons sick with contagious diseases to a hospital. Births and deaths become matters of record only through the reports of physicians to the county clerk.

Registration and Statistics of Death and of Disease.—Burials occur without permit and no registration of causes of death is made. Scarlatina was epidemic in the early winter of 1885 and typhoid fever during September and October, 1885. Malarial diseases are less prevalent than formerly.

Public Schools.—The total number of scholars registered last year was 500 and the average attendance was 450. There is one graded school. The programmes vary but the recitations are usually 30 minutes long; recesses are 15 minutes long and there is a noon intermission of one hour. Pupils under eight years old are never confined to the room longer than one and one-half hours at a time. The classes stand during recitations. Exercise in the open air is not compulsory. Never have had a case of small-pox among scholars or teachers.

The school building is heated by stoves, and the rooms are ventilated by lowering the windows—a method which is only moderately satisfactory. The privies are common wooden buildings located some distance from the school building. The basement of the building is used for storing fuel. The water supply is derived from a well and is abundant and good. The rooms are sufficiently lighted. Pupils usually stand from 12 to 15 feet from blackboards. No opportunity is had for exercise under shelter, and no provision is made for drying wet clothing. The play ground is a large square lawn which is well kept. The pattern of desk in use is satisfactory.

Sanitary Survey of Oregon.

By C. H. Grassnickel, Chairman Board of Health.

Location, Population and Climate.—Oregon, the county seat, is situated near the center of Ogle county, on the west bank of the Rock river; 85 miles west by north of Chicago, on the Chicago and Iowa Railroad.

The city of Oregon was organized under an act of the General Assembly of the State of Illinois, entitled "An Act to incorporate the city of Oregon," (approved April 1st, 1869), by an election held in said city on the 21st day of March, A. D. 1870. It was reorganized under chapter 24 of the Revised Statutes, being an act of the General Assembly, entitled "An Act to provide for the incorporation of cities and villages," approved April 10th, 1872, in force July 1st, 1872, by a special election called for that purpose and held on the 29th day of March, A. D. 1873, and such organization still continues in force.

By the U. S. census of 1880 the population of the city was 1,088, and of the township, including the city, 1,765. The present estimated population is about 1,400, of which number nearly 200 are under 5 years of age.

TOPOGRAPHY.—The surrounding country is hilly. One-half mile from the town and for miles around there are hills and mounds, making this one of the most beautiful and picturesque countries east of the Rocky mountains. The site of the city is level, but it has a general surface slope to the east and south. The Rock river, a rapid stream 900 feet wide and 6 feet deep passes through the city. The banks of this stream are steep and hard and the water is clean. There are, in the course of the stream, shoals and flats which at times are laid bare. Opposite the upper portion of the city there is a dam across the river 900 feet in length and with a fall of 110 inches. The stream above the dam is deep and rapid. A small portion of the city was once flooded during a terrible storm but without any perceptible effect upon health.

The surface rocks are the Galena blue and buff limestone of the Trenton and Cincinnati groups and the St. Peters sandstone. The underlying strata in the order of their succession downwards are the Cincinnati group, blue and green shales, Galena limestone, blue Trenton limestone, buff Trenton limestone, St. Peters sandstone (white and soft), and lower magnesian limestone. The character of the surface soil is sand, gravel beds, clays and black loam. Malarious effects have not been observed when the surface soil has been disturbed. There are continuous fissures in the rock and soil through which the soil water flows, and "ever-living wells of reasonably pure water are found without difficulty wherever the Cincinnati shales lie near the surface" as they do in this vicinity.*

WATER SUPPLY.—For fire purposes the water supply is derived from a reservoir capable of holding 1,000,000 gallons, situated about one mile from the city, on a hill 196 feet high, to which it is raised by force-pumps. The water is pumped directly from Rock river into the reservoir, from which it is distributed by gravity through cast iron pipes 8 inches in diameter. There are no sources of contamination located upon the stream above the point at which the water is taken, but it is not fit for use in hot weather and very few persons use it at any time. Watering troughs and fire plugs are provided in those parts of the city in which water mains are laid.

The water for family use is derived chiefly from cisterns. In that part of the city where wells are used the soil is coarse gravel. The wells are usually 40 feet deep to the bottom and 35 feet to the surface of the water. As far as is known cisterns and wells are free from cesspool and privy contamination, and the use of well-water has not been productive of sickness.

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*Geological Survey of Illinois, Vol. III.

DRAINAGE AND SEWAGE.—There is an area of 480 acres within the city limits most of which is built over as the city is very much scattered. The natural surface drainage is sufficient to keep the city dry; but there are in addition 80 rods of underground drain from the jail to the river. This is of vitrified tile, tightly cemented together with sufficient fall to insure a flow that will keep it clean. It is at a depth of 6 feet and is 16 inches in diameter at the mouth. There is no general sewerage system.

STREETS, ALLEYS AND PUBLIC GROUNDS.—The general width of the roadways of the streets is about 70 feet. The sidewalks are 5 feet wide, built of pine planks. There are 2 blocks of cobble stone pavement and the rest of the streets are graded and graveled. The soil is light, but is not unduly wet in the spring of the year. The streets are cleaned as often as necessary and are watered by sprinkling. There are soft maple and elm shade trees planted 2 rods apart along the streets near the sidewalks. These are cared for by the individual property owners.

The general width of the alleys is 10 feet. The regulations concerning the deposit of ashes, manure, garbage, etc., in alleys and elsewhere are not strictly enforced and generally the alleys are cleaned by the property owners only upon compulsion.

There are no parks or open squares belonging to the city.

HABITATIONS.—There are 249 dwelling houses within the city limits, the majority of which are inhabited by the owners. The average occupancy of each dwelling is 5.6 persons. The majority of the houses are isolated buildings with sufficient yard space surrounding them. There are no buildings over 2 stories in height.

GAS AND LIGHTING.—The city is lighted by kerosene. There are no precautions taken to ascertain the grade and no restrictions exist on the sale of illuminating fluids.

GARBAGE AND EXCRETA.—There are no laws as to the removal of garbage, but dead animals are buried by the police and this disposal is satisfactory. But few houses have water-closets and these all deliver into cesspools. The majority of houses have privies—concerning which there are the following provisions in the ordinance relating to nuisances:

SEC. 8. Each and every privy or building to be used as a privy, which shall be constructed within said city, or removed from its present location to another within said city, shall be placed over a vault not less than five feet deep under ground, walled up with brick or stone, or curbed with plank, and shall be so constructed that the outside wall of such vault shall be at least three feet distant from the line of any adjacent lot, unless the owner of such adjacent lot shall otherwise agree, and shall also be at least five distant from any street, lane, avenue or alley, and any privy or building to be used as a privy, which shall be constructed or located contrary to the provisons of this section is hereby declared to be a nuisance, and if the owner or occupant of the lot or premises upon which any such nuisance may be located, shall neglect or refuse to abate the same within three days after notice so to do from any officer of the city, or any person interested, he shall, upon conviction, be fined five dollars, and shall be subject to a like fine for every day he shall so neglect or refuse to abate such nuisance, after the first conviction.

SEC. 9. If any person shall own, keep or occupy any grounds or premises in said city, in such condition from any cause, as to be offensive to the neighborhood, he shall be deemed the author of a nuisance, and on conviction, shall be fined not less than three dollars, nor more than fifty dollars, and shall be subject to a like fine for every day such nuisance shall continue after the first conviction.

SEC. 10. Whenever any nuisance whatever shall be found on any premises, or elsewhere in the city, contrary to any ordinance, the mayor or any alderman is hereby authorized in his discretion, to cause the same to be summarily abated in such manner as he may direct.

SEC. 11. It shall be the duty of the city marshal, city superintendent of streets, and such other officers as may be directed by the mayor or city council, from time to time, to cause all nuisances declared to be such by this ordinance to be abated, and each and all of said officers are hereby authorized, at any time between the rising and setting of the sun, to enter into any store, stable, house or other building for such purpose, and to enter upon all lots or premises, and to cause all stagnant waters to be drained off, and pools, sinks, vaults or low grounds to be cleansed, filled up, or otherwise improved, and to cause all privies to be cleansed and kept in good condition, and to cause all dead animals and other nauseous substances to be buried, or removed beyond the limits of the city, and upon any such nuisance being abated by any such officer, a suit may be instituted in the name of the city, against the owner or occupant of the premises, or the author of such nuisance, for the recovery of the moneys expended and expenses incurred in abating such nuisance, and such moneys and expenses may be recovered in such action, or such moneys or expenses may be charged up to the owner or occupant of such premises, and shall become a lien upon his interest therein, and the same may be collected in the same manner that is or may be prescribed by law or the ordinances of said city for the assessment and collection of expenditures for building or repairing sidewalks.

Similar provisions apply to the proper care of barns, stables, livery stables, cow-yards, sheds, hog-pens and like places within the city limits, and all collections of manure, garbage, excreta, etc., are disposed of by the individuals—as a rule, without intervention by the city authorities.

MARKET AND FOOD SUPPLY.—There are no public markets, and the private grocery stores are not under any municipal supervision. The supply of fresh meat and of vegetables, the greater part of which comes from the immediate vicinity, is good. Peddlers are required to pay a license and no fruits or vegetables are offered for sale unless they are good. Most of the people keep cows and the milk supply is good.

SLAUGHTER HOUSES.—Animals for the city markets are obtained from the surrounding country within the county and there are annually slaughtered for city consumption about 480 beeves, 600 hogs and 600 sheep. There are no inspections made, but the quality of the fresh meat supply is uniformly good and wholesome. The slaughter houses are private property and are situated beyond the city limits. The animal offal and refuse is fed to hogs kept for the purpose. No nuisances result from the slaughter houses.

MANUFACTORIES AND TRADES.—There are no manufacturing establishments within the city limits that are nuisances. Ten hours' labor are required in the factories. The ventilation and privy arrangements are satisfactory.

POLICE AND PRISONS.—There is a police force consisting of two persons, who are under the control of the mayor and city council. The police act as inspectors of nuisances. There is also a night patrol. There is one lock-up, with cells 6x8 feet. There is one jail within the city limits. The building is heated by a furnace. The prisoners are allowed jail fare and there has never been an epidemic among them. The jail, almshouse and insane asylum have been recently inspected by Dr. Clements, county physician, and Mr. Joseph S. Myers, supervisor, in accordance with the circulars of the STATE BOARD OF HEALTH, and are reported to be in excellent sanitary condition as to cleanliness, thorough drainage and good ventilation.

There are 3 saloons licensed to sell beer and there is estimated to be about $15,000 worth of this liquor sold in the city per annum. There were 60 cases brought before magistrates and police courts for drunkenness during the year. The municipal regulations with regard to the sale of intoxicating liquors are not complied with.

Fire Establishments, etc.—There is a volunteer fire establishment which thoroughly answers its purpose. There are 2 hose carriages and 1 hook-and-ladder company. There are 12 of the Babcock fire extinguishers in readiness for use. The loss by fire within the last year was very slight. There are good laws concerning the storage of gunpowder, nitro-glycerine, dynamite and coal oils and with regard to buildings in reference to fire. The doors of the churches and court house open outwards, as required by the State law.

Cemeteries and Burial.—There is one cemetery on the bank of Rock river, within the city limits, in which interments are made. The graves are 6 feet deep, and are dry. The soil in the cemetery is clay to the depth of 4 feet, with gravel beneath. No vaults are used. Burial permits are not required.

Public Health Laws, Regulations, Sanitary Officials.—The municipal health organization consists of 3 aldermen, who are selected by the mayor. The board has an executive health officer and the assistants have police powers. The board meets once a month. It keeps no records except those of marriages.

The health ordinance, passed February 10, 1882, prohibits persons sick with small-pox or other contagious, infectious or pestilential diseases from coming into the city; provides for the placarding of houses and a quarantine of isolation of premises and inmates in the case of such diseases occurring within the city; prescribes the duties of the city marshal and police officers under such circumstances and the penalty for violation of the ordinance; gives the mayor authority "to cause any person sick or infected with small-pox or other contagious, infectious or pestilential disease within said city to be removed to such safe or proper place outside of the limits of said city as the mayor may direct, and in case of such removal to cause such person to be provided with suitable nurses and medical attendance, at the expense of such person if he is able to pay the same, but if not able, then at the expense of said city." The ordinance also requires every practicing physician who shall have a patient within said city sick or infected with the small-pox or other contagious, infectious or pestilential disease to "forthwith make a report thereof in writing to the mayor, describing the disease and where the patient may be found, and upon failure so to do such physician shall be fined not less than two nor more than twenty-five dollars."

Division V. of an ordinance defining misdemeanors and fixing punishments relates to offenses affecting the public health, and prohibits—under penalty of fine and imprisonment—the throwing of offal, etc., into the river or reservoir; the permitting of dead animals to decay within a half-mile of the city limits, and the sale of impure, unwholesome, adulterated or diluted milk or food of any kind.

Public Schools.—The total number of public scholars registered is 460 and the average attendance is 378. There is one school and the pupils are divided into grades of about 45 each. The pupils under 8 years of age are confined in the school room two hours at a time, morning and afternoon, and to the seat without change 25 minutes. Experience is in favor of 2 sessions a day with one long intermission. Each pupil stands while reciting. The holidays are 2 weeks in December, 1 week in April and 10 weeks in summer. Both sexes study and recite together.

Each scholar is required, as a condition of admission to school, to have a regular vaccination certificate in the form provided by the State Board of Health. This condition was first instituted about 2 years ago, and it is thoroughly enforced. Pupils from families in which contagious or infectious diseases are prevailing are not admitted to school. About two-thirds of the absences of pupils is due to sickness, as shown by the "excuses" furnished by parents. There has been no spread of any contagious disease due to school attendance, nor are there any diseases or ill effects to health resulting from the school conditions. Diphtheria, mumps and scarlet fever occur among the scholars, but not to an unusual extent. Pupils are more likely to take diseases from their neighbors than from school attendance if the school rooms are well ventilated and properly managed otherwise. A school building should never be more than two stories high.

The Oregon school building is 2 stories high and contains 9 rooms, each with a seating capacity for 45 pupils. The building is of brick and wood, and was erected in 1869 at a cost of $10,000. It is heated by stoves and the rooms are kept at a mean temperature of about 70 degrees in winter. The rooms are ventilated in winter by the windows and in summer by the windows and doors, but this ventilation is not satisfactory. There is about 100 square feet of surface through which light pases into each room by the windows, and this makes the rooms sufficiently light. Pupils are required to read letters and figures from black-boards, maps, charts, etc., at a distance of from 5 to 25 feet. The Sherwood desk and seat are used and they have given satisfaction. There is no basement to the building.

The lot is situated about 4 blocks from, and is elevated about 50 feet above, the river. The soil is sandy. The play ground is ample and is kept neat and clean. The privies are placed in corners of the grounds and are kept in good condition. An abundant supply of good water is derived from cisterns on the premises.

Sanitary Survey of McLeansboro.

By A. DeFoe, M. D.

Location, Population and Climate.—The town of McLeansboro, the county seat of Hamilton county, is on the Louisville and Nashville Railroad, at the junction of the St. Louis, Evansville and Shawneetown division, 101 miles east of St. Louis. It is in the heart of a well-timbered agricultural district, and is in latitude 38° 15′ N., longitude 88° 31′ W. It was founded in 1820, and incorporated in 1875. Its population in 1860 was 500; in 1870, 1,100; in 1880, 1,341, and the present estimated population is about 1,800. There are 210 children under five years of age, and 707 under 21. The proportion of native to foreign population is as 16 is to 1, probably 1,600 natives and 100 foreigners. There are 10 negroes.

Topography.—The surrounding country is undulating and slightly hilly, but with no considerable hills and no marshes in the vicinity.

The town is surrounded by meadows, finely cultivated farms and timber lands. The general surface slope is to the south. There are three ponds of water within the city limits; one in the northwest part of town, has an area of 120,000 square feet, and is 6 feet deep; the other two are east of the center of the town, about 660 feet apart, and are about 3 feet deep. The water is not stagnant. No part of the city is subject to overflows.

The surface rocks of the vicinity are drift bowlders, and the surface soil is yellow clay and sand. A geological section near the town presents the following formation:

Yellow ferruginous shale	10	feet.
Black or dark-blue bituminous shale	2 to 3	feet.
Coal	8 to 12	inches.
Fire-clay	1 to 2	feet.
Limestone	1 to 1½	feet.
Space unexposed, estimated at	30 to 40	feet.
Shale and thin-bedded sandstone	10 to 12	feet.
Evenly-bedded sandstone	5	feet.
Sandy shales	8 to 10	feet.

The strata seem to be nearly horizontal, no continuous dip in any direction being perceptible. There is no malaria and no ill effects on health are attributable to the geological formation.

Water Supply.—The water supply is derived entirely from wells and cisterns—wells furnishing only about 8 per cent. of the water used. The usual depth of the wells to the bottom is 15 to 20 feet, and to the surface of the water 10 to 15 feet; water clear but hard. Cisterns and wells are generally so located as to be free from cesspool or privy contamination, being distant from 60 to 100 feet from such places. Well water has not been productive of sickness.

There is a chalybeate spring one and a half miles east of town, the water of which is strongly charged with carbonate of iron. The water in a well on the premises of the reporter is also highly charged with mineral matter, a qualitative analysis showing the presence of chlorides of sodium and magnesia, sulphates of lime, magnesia, alumina and iron, and carbonates of lime and magnesia, the water being neutral to test paper. This water probably derives its mineral properties from the shale overlying the thin coal that outcrops on Hog prairie, as that coal was passed through in sinking the well, and the chalybeate spring, as well as a strong saline sulphureted water in a well north of town, may derive their mineral ingredients from the same source.*

Drainage and Sewerage.—The area included within the corporate limits is one mile square, in the centre of which stands the court house, the jail and a fire-proof building on either side. Around the square are business houses, and the most thickly-settled part of the town. The lots are 60x180 feet, each lot, as a rule, being occupied by one house. There is no system of sewerage, the drainage being entirely surface.

Streets and Alleys.—The average width of streets is 44 feet, and of sidewalks is 8 feet. These latter are paved with plank, but there are no paved roadways. The roadways are of clay and sand, properly worked and graded to side gutters which furnish sufficient drainage to prevent them from becoming unduly wet at any time.

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* See Economic Geology of Hamilton county, in State Geological Survey, Vol. III.

Shade trees of maple, elm, katalpa and sycamore are planted on some of the streets.

Habitations.—There are 335 dwelling houses within the corporate limits, about four-fifths of which are occupied by the owners. The average occupancy of each dwelling is nearly five and one-half, and although there are 21 tenement houses yet none of these is over-tenanted. No houses have special arrangements for ventilation, and about one-tenth of the houses having neither cellar nor basement are not sufficiently raised for sub-ventilation. Some cellars are damp but all are drained. But few habitations are furnished with proper bathing facilities. Cellars are not used for storing fuel. The buildings are about one-third as high as the streets are wide. None of the privy vaults in use are water-tight. They are disinfected by use of chloride of lime, sulphate of iron and corrosive sublimate. When the vault is full a new one is dug and the old one is covered with earth.

Slaughter Houses.—Animals for city supply are obtained in the immediate vicinity. There are annually slaughtered for city consumption about 300 beeves, 500 hogs and 200 sheep; none for packing or shipment. They are usually driven to the place of slaughter, and not inspected either before or after slaughtering. Observations as to fright or terror in animals are that they do not bleed well, consequently the capillaries are not emptied, giving the meat a bluish, purple appearance. This meat cannot be good. The mode of slaughtering is by knocking the animal in the head and bleeding. The slaughter house is a small private establishment, beyond corporate limits, and is not considered a nuisance in the neighborhood. Tallow and lard are rendered on the premises and the animal refuse is eaten by hogs kept for that purpose. The meat from these hogs is not considered as firm as that of corn-fed hogs, but more juicy and tender; the livers are free from disease and the surface meat is clear and free from spots. The "rendering" is done once a week.

Hospitals and Public Charities.—One physician is employed by the city to see to the wants of the poor; he is paid $100 per annum. There are no hospitals in or near the city.

Police and Prisons.—There is one temporary lockup, which has one room 12x14x10 feet and ventilation is effected by the transom over the door and by the barred windows. Privy arrangements are out of doors. There is also a county jail containing four cells, each 6x4x10 feet, heated by a stove in the center of the hall, and ventilated through barred windows There are no houses of prostitution in the city, and no places where intoxicating liquors are sold. A very limited quantity of malt liquor is consumed yearly and less distilled spirits. Six cases of drunkenness were brought before the magistrate during 1885. Prohibitory legislation as to the sale of intoxicating drinks is strictly enforced.

Fire Establishments, etc.—There is no fire organization. The method of alarm is by ringing of church bells. The water supply in case of fire is derived from cisterns and wells. "Fire extinguishers" are not in use. The loss of property from fire last year was one small dwelling valued at $150.00, caused by carelessness. The State law with regard to doors of public buildings opening outward is complied with.

Cemeteries and Burial.—There is one cemetery within the city limits which has been closed for ten years past; also one outside of corporate limits owned by the I. O. O. F., and containing about 300 graves. The average depth of graves is 3½ feet; the soil is clay and is dry at the depth at which bodies are placed only during the dry season. No vaults are used. It is said that offensive odors have been noticed in the neighborhood of this cemetery but no special diseases are traceable to it. Extra precautions are taken with regard to the burial of persons dying of contagious diseases and such funerals are strictly private. Burial permits are not required,

Public Health Laws, Regulations, Sanitary Officials.—The board of health was organized in 1881, and is a special body selected by the board of village trustees. It numbers three members, all physicians, who serve for one year at a nominal salary. It has no executive health officer, nor any assistants, but all of the board have police powers, specified by ordinance. The board has no specified time of meeting. Its authority is independent of the trustees. It can abate as well as define a nuisance, and it takes cognizance of all complaints made to its members of whatever nature, affecting sanitary conditions. There are no regulations as to isolation of patients having contagious diseases, but each physician is expected to do as he thinks best, nor has the board power to remove patients to a hospital. There are no requirements as to vaccination. In cases of epidemics of contagious diseases the schools and churches would be closed and public gatherings forbidden; patients would be isolated and the precautions recommended in the Preventable-Disease Circulars of the State Board of Health would be enforced. Births and deaths become matters of record only by reports of physicians to the county clerk.

Mortality statistics show deaths from the following diseases in the months and years given: Malarial fever, 1879—May 1; 1880—October 1. Typhoid fever, 1878—June 1; 1879—June 1, August 1, September 4, November 1; 1884—February 1. Erysipelas, 1879—December 1. Dysentery, 1880—June 2. Diarrhea, 1880—January 1. Croup, 1878—November 1; 1880—September 1. Measles, 1884—March 1. Whooping cough, 1878—June 1. Pneumonia, 1878—September 1; 1879—March 3, December 1; 1380—January 2, February 1, March 2, May 1, November 1, December 1; 1881—February 2, March 2; 1882—December 3. Phthisis, 1878—November 1; 1879—November 1; 1881—May 1; 1882—October 1. Other diseases of the lungs, 1878—March 1; 1879—December 2. Diseases of the urinary organs, 1878—January 1; 1882—April 1. Puerperal diseases, 1882—January 1.

Deaths of children during the same period: Under one year of age, 1877—January 1; 1878—October 2, November 1, December 1; 1879—August 1, October 1, November 1, December 3; 1880—June 1, December 4; 1881—March 1, June 3; 1882—January 1, February 1, April 1; 1883—March 1, April 1, August 1. Between one and five years, 1878—March 1, June 2, December 1; 1880—January 1, February 1, October 1; 1881—February 1; 1882—December 1. Between five and fifteen years, 1879—March 1, November 1; 1880—September 1, November 1.

Still births during the same period (including abortions at all stages of gestation), 1879—November 1; 1880—September 1; 1881—November 1; 1882—March 1; 1884—January 1.

Births between December, 1877, and the close of 1884:

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
1877.	....	....	....	....	....	....	....	....	....	....	....	1	1
1878.	4	1	4	1	2	5	3	3	2	3	4	5	37
1879.	2	2	2	2	..	1	3	5	5	6	1	4	33
1880.	3	3	4	1	1	1	2	3	7	3	3	5	36
1881.	4	3	3	3	4	4	3	1	1	2	2	2	32
1882.	2	1	4	4	....	1	....	2	2	1	2	6	25
1883.	....	5	3	...	2	2	...	3	8	6	2	3	34
1884.	1	4	2	4	4	5	3	2	2	2	....	1	30

PUBLIC SCHOOLS.—There is one school building, which is located in the southeast portion of the town. Area of the lot is 90,000 square feet. The soil is clay and sand, and drainage is effected by surface ditching. The building, of brick, was erected in 1877; cost, $5,000. There are two stories containing six rooms for use of scholars, each with a capacity of 50. The building is heated by coal stoves and 500 bushels of soft coal are consumed annually, The temperature of the rooms is usually 70° in cold weather. Sickness, such as enlarged tonsils, due to variations and extremes of temperature, is noticed. Ventilation is had by lowering the windows, but this is not satisfactory. The privy vaults are pits 2x8 feet and 6 feet deep dug in the ground and walled with brick. The building has no basement. The water supply is derived from a cistern, but is not abundant. About 124 square feet of surface admit light into each room. Distance of pupils from blackboards is 5 to 15 feet. There are no opportunities for exercise under shelter, and no provision made for drying wet clothing. The play ground is an open space with no shade trees. Desks with movable seats are used and are found satisfactory.

SANITARY SURVEY OF NOKOMIS.

BY THOMAS J. WHITTEN, M. D.

LOCATION, POPULATION AND CLIMATE.—Nokomis is situated in the northeastern part of Montgomery county, on the Indianapolis and St. Louis Railroad, about 81 miles northeast of St. Louis. It is in latitude 39° 20′ N., longitude 89° 20′ W. It was founded in 1855; incorporated as a village March 9, 1867, and was subsequently incorporated as a town under a special charter. It had a population in 1860 of 80; in 1870 of 800; in 1880, 1,062, and its present estimated population is 1,350, among this number being 14 negroes.

TOPOGRAPHY.—The site of the town is level, with an average elevation of about 1,000 feet above the level of the sea; the surface slopes gently to the northwest. To the east are several mounds, with long gentle depressions between, stretching off into rich plains. It is surrounded on all sides by rich farm lands. The east fork of Shoal creek passes north and east of the town. It flows rapidly, but does not run all the year round, and overflows but little territory, even in rainy seasons. The exposed shore ground is hard, and the water clean. The bed of the stream is not subject to any deposit of organic matter or of silt. There is a railroad reservoir and a mill-pond within the corporate limits. They do not become stagnant. Some parts of the town are subject to overflow in the spring for a few hours only, and this has no perceptible effect upon health. Wells generally fill up almost to the top during the rainy spring season.

The surface soil is a rich dark loam. Of late years no malarial effects have been noticed as a consequence of its disturbance. The upper coal measures underlie all the superficial deposits, including coal beds and embracing about 150 feet of the accompanying rocks.

Water Supply.—The water supply is derived exclusively from wells and cisterns. Cistern-water is used only for cooking purposes. The usual depth of wells is 14 feet, and the distance to the surface of the water, between 6 and 8 feet. Cisterns and wells are not all located so as to be free from contamination, in many cases being only from 10 to 30 feet from privies, which are simply vaults dug in the ground and not cemented. It cannot be stated as a positive fact that the drinking of well-water has been productive of sickness, but water from three wells in the vicinity of the stock yards has been examined and found to contain considerable quantities of albuminoids.

Drainage and Sewerage.—The town has an area within the corporate limits of one square mile, no part of which is closely built up. It has no sewerage system, but is drained entirely and quite satisfactorily by ditches on either side of the streets. In some parts ot the town, however, the cellars are liable to overflow during heavy rains.

Streets, Alleys, and Public Grounds.—The general width of the roadways is 60 feet, and of the sidewalks 4 feet. The latter are of plank. The streets do not differ in healthfulness or comfort owing to direction. They are unduly wet in the spring of the year, being drained only by side ditches. There are no pavements, and no arrangements for cleaning or watering the streets. Soft maple trees are planted along most of the streets. They have no perceptible effect upon health. They are cared for by individual property-owners. No portion of the streets or walks is laid down in grass.

The general width of alleys is 20 feet. There are no regulations concerning the deposit of ashes, manure and garbage therein. There is one public park 300 feet square belonging to the city, and situated within the corporation limits. There are no other open squares. The park is kept in good condition.

Habitations.—Nearly all the dwelling houses are inhabited by the owners. Only three or four are occupied by two or more families, and none are overtenanted. No house has been condemned for any reason during the past year. All dwellings are isolated buildings, having sufficient clear space all around them. None of them have special arrangements for ventilation, but nearly all are properly arranged for subventilation. There are very few cellars in the town, and but few houses have proper facilities for bathing. There are no cisterns, springs, wells or privies in the basements. Cellars are not used for storing fuel, but for fruit and vegetables; ashes and sweepings are not deposited therein. The ground under basement floors is usually cemented. None of the buildings are over two stories high. No ill effects have been observed from arsenic or other wall paper in sleeping rooms, nor from the use of dyed wearing apparel.

Lighting.—The town is not lighted by gas. About one dozen coal oil street lamps are in use. No precautions are taken to ascertain the grade, and no restrictions are placed upon the sale of illuminating fluids; but there have been no accidents from explosions of any such during the past year.

Garbage and Excreta.—There is no ordinance concerning the removal of garbage and excreta. Dead animals are taken outside of the limits and buried. Thirteen were satisfactorily disposed of in this manner last year. All houses depend wholly upon privy vaults, none of them being water-tight. They are cleaned at the pleasure of the owners. One family last year had five cases of malignant diphtheria with two deaths, believed to have been due to contamination of well-water by privy and cesspool drainage.

Markets and Food Supply.—There are no markets established by ordinance. All grocery stores sell vegetables and meats without supervision. The supply of fresh meat is abundant; the quality and variety fair. No meat was condemned as unfit for food during the past year. Fowls are generally sold to consumers alive, except in winter, when a few dressed ones are sold. The supply of vegetables and fruits is abundant and good, and is derived from the immediate vicinity. They are allowed to be offered for sale without regard to quality. Producers may sell to consumers direct without payment of tax. The milk supply is abundant and good. No cases of poisoning have occurred from unwholesome food or drink. Oleomargarine is not sold as butter. There are no ordinances concerning food adulteration.

Slaughter Houses.—Animals for home consumption are obtained from the immediate vicinity. They are not inspected either before or after slaughtering. The mode of slaughtering is by shooting or "sticking." Slaughter houses are private property. There is a stock yard on one of the principal streets, where cattle and hogs are kept the year round. The odor is almost unbearable; at times it has been so bad that families in the immediate vicinity could not eat their meals without closing their windows.

Police and Prisons.—The police force numbers two, one day and one night patrol. They do not act as inspectors of nuisances. There is one temporary lock-up, in which both sexes are confined, but in separate cells, the air space being 1,800 cubic feet. It has no privy. Prisoners in the lock-up are supplied with good food from the hotel. There are no public houses of prostitution. There are three saloons in the town where intoxicating drinks are sold. About 20,000 gallons of malt liquor is consumed annually and 3,000 gallons of spirituous liquor. Eighteen cases of drunkenness were brought before the magistrates last year. There are no municipal regulations with regard to the sale of intoxicating drinks.

Cemeteries and Burial.—There are no cemeteries within the city limits but there are three about one mile distant. The subsoil drainage from the cemeteries is not thought to contaminate wells or water-courses. Graves are dug about 3½ feet deep and are generally dry; the soil is loamy. No nuisance or evil effect has been observed from cemeteries. No extra precautions are taken with the burial of persons dying of contagious diseases. There is no receiving vault. Burial permits are not required.

Public Health Laws, etc.—There is no board of health and no municipal regulations on the subject, but at the May meeting of the town board 3 sanitary inspectors were appointed and instructed to inspect every house within the corporate limits and its surrounding premises. They were given authority to order and enforce the cleaning of any cellar, stable, alley, pig-pen or privy which in their opinion was or created a nuisance, and one of these inspectors was kept on duty to see that such orders were obeyed. At the July meeting he reported all notices complied with and the town in the best possible sanitary condition under existing circumstances.

Births and deaths become matters of record only through reports of physicians to the county clerk. Cholera, small-pox, scarlatina, diphtheria, cerebro-spinal fever and typhoid fever have never been epidemic in the town. Malarial diseases and pneumonia are less prevalent than formerly, while typhoid fever and consumption are on the increase. Immigrants from abroad do not suffer from the climate; nor do those from other parts of this country.

Public Schools.—There is one large two-story school building, provided with a fire escape. The total number of scholars registered is 336, the average daily attendance 256. The hours are from 9 o'clock a. m. to 12 m. and from 1:15 to 4:15 p. m., with a recess of 15 minutes both morning and afternoon. Classes have from 20 to 30 minutes recitations, during which they stand. All pupils, without reference to age, are confined to the school-room during the hours above stated without any changing of seats except during recitations. No lessons are required to be studied outside of school hours. The summer vacation is from June 1st to September 1st. Other vacations are the national holidays and Christmas and New Year week. Exercise in the open air is not compulsory. Competition is not a feature of the school system. The methods of discipline are corporal punishment and dismissal from school. Scholars from families where contagious diseases are prevailing are not allowed to attend.

SANITARY SURVEY OF CLAYTON.

By J. N. BLACK, M. D.

LOCATION, POPULATION AND CLIMATE.—Clayton, Adams county, is on the Wabash, St. Louis and Pacific Railroad, 28 miles northeast of Quincy, latitude 40° N., longitude 91° W. It was founded in 1833, and incorporated in 1865. The population in 1860 numbered about 600; it increased to about 1,000 in 1870; but in 1880 it had fallen to 940. The present estimated population is 1,092, of which 220 are children under 5 years of age. About one-tenth of the population are foreigners. It is estimated that there are about 80 persons of European birth; and about 25 negroes and mulattoes. No meteorological observations have ever been recorded in the village.

TOPOGRAPHY.—The site of the village is comparatively level, the general surface slope being to the south and west, and the country both east and west is level; but towards the north and south it becomes quite rolling and hilly. There are no marshes or low lands in the vicinity; and no streams of water except a small creek or branch which runs through the town. The original conformation of the site has not been materially changed. It is from 200 to 280 feet above the low water level of the Mississippi river at Quincy—probably 700 feet above sea level. The geological formations exposed in this vicinity are those of the lower carboniferous limestone series, about 300 feet in thickness; about 100 feet of the lower part of the coal measures, and the quaternary and post-tertiary deposits which irregularly overlie all the others. Coal seams, ranging from 18 to 28 inches in thickness, have been developed in the immediate vicinity; usually overlaid by a layer of bituminous black or clay shale, from 4 to 15 feet in thickness. The soil is deep and black and highly charged with vegetable matter.

WATER SUPPLY.—The water supply is derived entirely from wells and cisterns. There are three cisterns for fire purposes; and three public wells. Wells are dug from 15 to 40 feet deep. The water has no offensive taste or odor. A few wells and cisterns are so located as to be liable to contamination by the drainage from privy vaults located on higher ground. The water has never been analyzed.

DRAINAGE AND SEWERAGE.—The village has an area of one square mile, four-fifths of which is built upon. The natural surface drainage is good. There are no swamps, or areas of made land, or places saturated with water in or near the town; nor are cellars, or any lower parts of the town, liable to overflow, or to the intrusion of soil water. There is no system of sewerage. It is drained by small tiling and surface ditches, which sometimes emit a disagreeable odor.

STREETS, ALLEYS AND PUBLIC GROUNDS.—The width of the roadway of the streets is 60 feet; of the sidewalks, in the business part 10 feet, in the residence part from 6 to 8 feet. There are no paved streets. The sidewalks are mostly of pine boards; but some few are of stone. The streets are graded from the centre to a ditch on each side; and are sometimes very wet in the spring of the year. It is the duty of the street commissioner to abate any nuisance that may exist in the streets. There are a few shade trees, mostly maple and elm trees, planted along the streets, and cared for by their owners. No portion of the sidewalk or roadway is laid down in grass.

The alleys are 10 feet wide. There is a village ordinance requiring every person to keep his residence lot and the adjoining streets and alleys clean and free from deposits of ashes, manure, garbage, etc., and providing a penalty for non-compliance. There is one public park in the village, which is about 150 feet square. There is no special ordinance for its regulation, but it is kept in good condition without much trouble or expense.

HABITATIONS.—There are about 240 dwelling houses in the village, about two-thirds of which are inhabited by their owners. There are 9 or 10 tenement houses, occupied by two or more families. None are overtenanted, the average occupancy of all houses being about 5 persons. There are no municipal regulations with regard to over-occupancy; or with regard to the material used in, or manner of, constructing houses within the village limits. One house was condemned during the past year as unfit for habitation on account of its filthy condition and poor ventilation. Almost all the dwelling houses are isolated buildings, with sufficient yards or clear space all around them. None have special arrangements for ventilation; and only two or three are furnished with proper bathing facilities. Most of the basements and cellars are dry although the floors are not usually cemented; only a few are used for storing fuel. The fuel used has no unwholesome effect upon health. About one-fifth of the houses that have no basements or cellars are defective as to subventilation. A few cases of sickness have occurred, due to unfitness of dwellings or bad condition of cellars. No ill effects have been observed from wall-paper or from dyed wearing apparel.

LIGHTING.—There are 5 or 6 coal oil street lamps on Main street. No precaution is taken by the village authorities to ascertain the grade of the oil used and no restrictions are placed on the sale of illuminating fluids, kerosene, etc.; but no accidents have occurred from explosions or other causes in handling these fluids during the past five years.

GARBAGE AND EXCRETA.—All garbage, ashes, etc., are required by ordinance to be removed by the householder at his own expense. Such as is not destroyed by fire is dumped into the creek and ultimately washed away by rains. The ordinance is rigidly enforced and no nuisance or damage to health results from the manner of its disposal. The kitchen and laundry waste water is emptied into the open drains. About twenty dead animals were buried during the last year, this manner of disposal proving quite satisfactory. All houses depend wholly upon privy vaults, none of which are watertight. There are no village ordinances with regard to their construction or cleaning. No cases of contamination of wells or cisterns by drainage from privy vaults are known to have occurred, but there is reason to suspect such contamination.

MARKETS AND FOOD SUPPLY.—The private markets and grocery stores in which meats, fish, vegetables and fruits are sold are under no municipal regulation, but the supply of these goods is abundant and no complaints have been made as to quality. The milk supply is good. About four-fifths of the fowls consumed are sold alive and about one-third of all produce is sold direct to the consumer by the producer.

Slaughter Houses.—Animals for the village market are obtained in the immediate vicinity, and there are annually slaughtered about 156 beeves, 50 hogs, and 50 sheep. They are driven to the place of slaughter 2 or 3 days before they are killed. There is one slaughter house and this is located beyond the city limits. The drainage passes off through open ditches; the refuse is fed to hogs kept for the purpose. The meat of these hogs is thought to be better than the meat of corn-fed hogs. All meat is cooled by ice.

Hospitals and Public Charities.—There are 2 physicians employed by the city for the poor, at an annual expense of $100.

Police and Prisons.—The police force of the village consist of one constable who acts as an inspector of nuisances. There is 1 temporary lockup in which about 8 persons are confined yearly. The cells are 6x8 ft. The prisoners are allowed a diet of bread and water and are required to work on the streets. The sale of intoxicating drinks is licensed.

Fire Establishments, Etc.—There is a volunteer fire establishment of 28 members. There is 1 hand fire engine which cost $1,150 and also 1 hose cart. The water supply for this purpose is obtained from 3 public cisterns and from wells, and is abundant. The yearly incidental expense of the department is $100. There has been no loss of life or property by fire during the last year. The State law concerning the outer doors of public buildings is generally, but not uniformly, complied with.

Cemeteries and Burial.—There are 2 cemeteries, the South containing 35 graves with 12 additions annually, and the West containing 400 graves with about 36 additions annually. The graves are dug through black loam into a clay soil to the depth from the surface of about 3 feet and are usually dry. Extra precautions are taken with regard to the burial or persons dying with contagious diseases, and burial permits are required at all times by an ordinance.

Public Health Laws, Regulations, Sanitary Officials.—There is a special board of health consisting of 5 members one of whom, the executive health officer, is a physician. The members are selected by the village trustees and they have authority, independent of the council or constable, to make and enforce ordinances at any time. They may define and abate nuisances and they meet monthly to take cognizance of any matters affecting the health of the community, in which matters they have unlimited power. Patients are isolated in scarlatina, small-pox, etc. The rules of the State Board of Health concerning vaccination are enforced. Cleanliness and disinfection are the measures generally taken by the board to restrict contagious and infectious diseases. Births and deaths, respectively become matters of record by being reported to the county clerk by physicians and clergymen. The board records only those deaths that have been caused by a contagious disease or by improper hygiene.

Registration and Statistics of Death and of Disease.—No burials occur without permission granted by the health authorities, but there is no municipal system of registration of the causes of death in force. Two cases of small-pox, sporadic, occurred 4 years ago, and there was one death. There were six cases of scarlatina last winter but no deaths. There is some diphtheria occasionally but no deaths, and cerebro-spinal fever has never occurred in an epidemic form. There were 2 or 3 cases of typhoid fever in the fall.

The following is a summary of the deaths, by months, from given diseases, during the years specified:

Malarial fever in 1882—September 10, October 8, November 5, December 5; 1883—September 15, October 10, November 8, December 6; 1884—September 10, October 11, November 6, December 7. Typhoid fever, 1882—August 3, October 5, November 1; August 9, September 3, October 1, November 6. Cerebro-spinal fever, 1882—September 1; 1883—October 2; 1884—October 1. Erysipelas, 1882—March 1; 1884—June 3. Dysentery, 1883—August 2, October 3; 1884—September 5. Diarrhea, 1883—July 1, August 5, October 2; 1884—September 3, October 1. Scarlatina, 1884—October 1. Diphtheria, 1882—September 1; 1883—October 2, November 1. Croup, 1882—October 1; 1883—January 2, November 4; 1884—February 1, October 3. Whooping cough, 1879—March 1; 1881—June 1; 1882—January 1. Pneumonia, 1882—January 2, March 3; 1883—February 1, March 5, April 1, October 1; 1884—July 1, November 1. Pleurisy, 1879—February 1; 1881—March 2; 1883—November 1. Phthisis, 1882—April 3, August 1, November 3; 1883—March 1; 1884—February 2, June 1, September 1, October 1. Other diseases of the lungs, 1882—January 2, February 1, March 2, May 1, September 2; 1884—January 3, February 5, March 3, July 1, October 3, November 5. Diseases of the heart, 1883—April 1, July 2; 1884—January 2, December 1. Diseases of the urinary organs, 1883—February 1, October 1, November 2; 1884—January 1, September 3, December 1. Apoplexy, 1882—October 1; 1884—February 1. Puerperal diseases, 1883—January 1, October 1; 1884—February 1, May 1, August 1, October 2, November 1.

During the same period there were recorded deaths of children as follows: Under one year of age, 1883—June 1; 1884—January 1; September 1, October 1. Between one and five years, 1882—February 1; 1883—September 1. Between five and fifteen years, 1883—April 1; 1884—January 1, June 2, November 1.

Still births during the same period, including abortions at all stages of gestation, 1883—March 2, September 2; 1884—January 1, May 1, June 1, August 2, November 1.

Births during the same period, 1882—January 1, March 3, May 2, June 1, July 2, August 1, September 4, November 1; 1883—February 1, April 3, June 2, August 1, October 5; 1884—February 3, March 1, April 2, June 1, July 1, August 2, September 5, October 1, November 2.

There are about 245 children aged one to five years. Mumps and diphtheria are more prevalent than formerly. It is not noticed that new-comers suffer from the climate.

Municipal Sanitary Expenses.—The total amount of money appropriated last year by the city for sanitary purposes was $700.

There was appropriated and expended during the year for deep drainage $1,200, for the care of public parks and cemeteries $50, and for 3 public wells $180.

Public Schools.—There are 260 public scholars registered and the average attendance is 220. There is one building and the school is graded. The programme of each school day is as follows: 9 a. m. to 10:45 study and recitation; 10:45 to 11 recess; 11 to 12 study and recitation; 12 to 1 p. m. noon recess; 1 to 2:30 study and recitation; 2:30 to 2:45 recess; 2:45 to 4 study and recitation. The pupils under 8 years of age are confined five and one-half hours in all to the room during the day, and from 20 to 40 minutes to the seat without change. The preference is given to two sessions a day with one long intermission. The class sits during recitation but each pupil stands while reciting. The forenoon and afternoon recesses are each 15 minutes long and they are devoted to out-door exercise which is compulsory during pleasant weather. Saturday of each week is given as a holiday, together with the legal holidays, 2 weeks at Christmas, and a vacation between May and September. The sexes study and recite together. Pupils are not allowed to attend from families in which contagious or infectious diseases are prevailing. No cases of small-pox have occurred among pupils or teachers. About 5 per cent. of the absence of pupils is due to sickness as shown by the "excuses" furnished by parents.

The building is of brick, two stories high, and contains 7 rooms, one with a capacity of 60 scholars and the others will seat 40 each. It was erected in 1877 at a cost of $8,000. There is no basement. The rooms are heated by stoves and ventilated in winter and summer by windows and transoms, which is considered satisfactory. They are sufficiently light, as the number of square feet through which light passes into each room by windows is about 60. The distance of pupils from blackboards, maps, charts, etc., on which they are required to read letters or figures is 4 to 5 feet. Andrews' common school desks and folding seats are used and are satisfactory. The building is located on high ground and is surrounded by private residences. The drainage is through ravines to the north and west, and is good. The water supply is from a well, sufficient as to quantity, and is thought to be good. The playgrounds are level on one side and rolling on the other. They include the whole yard, and are cared for by a janitor, but are not well shaded.

Sanitary Survey of Equality.

By Drs. G. W. and L. W. Gordon.

Location, Population and Climate.—Equality is situated in the western part of Gallatin county, on the Saline river, and on the Shawneetown division of the Louisville and Nashville railroad. Latitude 37° 45′ N., longitude 11° 20′ W. The town was founded at a very early date, and was for a long time a county seat, but was not incorporated until 1871. The population in 1870 was 359, in 1880 it was 509 and the present estimated population is 700. Of these

655 whites and 20 negroes and mulattoes are natives, and 25 are foreigners of European birth. There are about 100 children under 5 years of age.

Topography.—The surrounding country is rolling and hilly. A considerable range of hills—thought to be a continuation of the Ozark system of mountains—extends across the country at this point in a southeasterly direction. Their altitude is from 300 to 400 feet above high water in the Ohio river. Their summits are covered with the conglomerate or mill-stone grit, a massive sandstone which usually contains small quartz pebbles. The low moist lands in this vicinity are located about 5 miles from the town and are known as "Cypress swamps" and "Horse swamps." The former is one mile and one-half wide and extends from the Wabash to the Saline rivers, a distance of perhaps 20 miles. It is overgrown for the most part with forests of cypress and oak, growing in a sandy loam, and is covered with water a greater part of the year. "Horse swamp" is from 1 to 5 miles wide and about 15 miles long; the soil is of a black sandy nature and the timber is mostly oak; in wet seasons water stands in the woodlands of this swamp, but in the summer the ground dries and cracks open.

The altitude of the Saline River Valley is about 470 feet above the sea level. The valley trends southeast, as the river follows to a considerable extent the course of the hills. The town is surrounded by farm lands except on the southeast which is forest land. It is built on the summit of a hill, and has excellent natural drainage in every direction, but more especially towards the river, which is south and southwest. The river is about 100 yards wide at this point, and in summer is a sluggish stream, averaging about 20 feet deep. In the fall and spring, owing to backwater from the Ohio, the stream is often 40 feet deep and is navigable for river steamers. The banks of the stream are steep and are about 20 feet high at low water. The water in the Saline is foul at this point, owing to rubbish and washings from the coke works situated on its banks. The north fork, which is also near the town, is clean except after heavy rains when it is quite muddy. The bed of the stream is subject to deposits of vegetable matter and mud. There are 2 or 3 small shoals in the Saline near the town, composed of gravel and refuse from the coke works, and these are exposed during low water. There are several small artificial ponds within the limits of the town, but the water in them is never stagnant or offensive. The country on three sides of the town is subject to overflows in February and March, owing to backwater from the Ohio. The effect upon health of the spring overflows is usually slight, but in August, 1875, there was an overflow which produced much malaria. The town has never been reached by an overflow owing to its elevated position, and the wells have never been influenced by the stage of water in the river.

The site belongs to the carboniferous period. Coal crops out along the streams, and there are also outcrops of limestone and millstone grit. The surface rocks are shales and sandstone in addition to those named. The underlying strata in the order of their succession from above downward, as shown at a shaft by which No. 5 coal is worked at Equality, is as follows: Fire clay; hard sandstone; argillaceous shales, with bands of sandstone; black slate; No. 4

coal; fire clay; hard, nearly white sandstone and shales; dark gray sand shale with thin coal; fire clay, clay shale with thin layers of sandstone; dark round shale; No. 3 clay; light sandy shale; dark sandy shale; dark silicious shales, with sulphur in crystals and thin coals; clay shale with sulphur; clay shale; soft black slate; fire clay; sharp white sandstone; dark gray shale with bituminous streaks; clear white shale and sandstone; sharp dark gray sandstone with bituminous streaks. The surface soil is loam and clay. During the construction of the railroad there was a slight increase of malarial trouble, owing doubtless to the disturbing of the soil. There are continuous fissures in the rock and earth through which the soil water flows.

WATER SUPPLY.—The water supply is derived exclusively from wells and cisterns, and as few privy vaults are used—most persons using the dry-earth system—the water supply is not thought to be contaminated from such a source. In 1873, during the epidemic of cholera, every case of that disease occurred among those families who used well or river water.

DRAINAGE AND SEWERAGE.—There is an area of about two square miles included within the city limits, of which about one-sixth is built up. The drainage and character of the land have been already described in the above.

STREETS, ALLEYS AND PUBLIC GROUNDS.—The width of the streets is from 60 to 100 feet, and of the sidewalks is 10 feet. The sidewalks are partly paved with stone, but mainly with plank and coal cinders. The soil of the roadways is clay loam and is not unduly wet in the spring. The roadways are graded with coal cinders, gravel, and in the suburbs with soil, and they are drained by gutters on either side. Locust, sugar tree, and elm shade trees are planted along the sidewalks. They are cared for by the individual property-owner. The general width of the alleys is 14 feet.

HABITATIONS.—There are about 110 dwelling houses within the city limits, about 90 per cent. of which are inhabited by the owners. There are about 50 tenement houses at the coal shaft near the city, most of which are inhabited by miners. The average occupancy of houses in the town is about six. There are three tenement houses within the city limits, each occupied by two families. Two houses were condemned and burned for sanitary reasons during the cholera epidemic in 1873. With one exception all buildings are isolated with sufficient yard. A few cellars are a little damp during the wet season. Buildings are always less than half as high as the streets are wide.

GARBAGE AND EXCRETA.—No laws exist concerning the removal of garbage. Dead animals are removed 300 yards from the city limits or any inhabited house.

MARKETS AND FOOD SUPPLY.—There are no public markets. Food supplies are sold from all general stores. There is no municipal supervision over these, as there has been no trouble from the sale of unwholesome food. The supply of fresh meat is abundant and good. The vegetable supply is from the immediate vicinity. Animals for the meat market are slaughtered in town. Producers may sell directly to the consumer without being subject to a tax, and about 50 per cent. of them sell in this way. Nearly every family keeps a cow.

SLAUGHTER HOUSES.—There is but one slaughter house in the town, and there are annually slaughtered therein about 200 beeves and sheep. There is an ordinance which requires all animal offal to be immediately removed from the city limits.

POLICE AND PRISONS.—There is a police magistrate and village constable, who, together with the board of trustees, act as inspectors of nuisances. There is one temporary lock-up,—a frame building with a single room 10x12, ventilated and lighted by two barred windows without sash. There were only two persons confined therein last year.

CEMETERIES AND BURIAL.—There is one cemetery within the city limits in which interments are made annually. The graves are dug in a clay soil to the depth of 4½ feet and are dry.

PUBLIC HEALTH LAWS, REGULATIONS, SANITARY OFFICIALS.—The board of trustees take cognizance of all matters affecting the health of the community, and they have inspected the town recently.

REGISTRATION AND STATISTICS OF DEATH AND OF DISEASE.—Burials occur in the cemetery without permit, and no record of deaths is known to be kept. The mortality from Asiatic cholera in 1873 was about 40 per cent. There has never been any yellow fever in the town, and no small-pox for over 20 years. Scarlatina in 1874, no deaths; in 1880 the mortality was about 15 per cent. of the cases.

PUBLIC SCHOOLS.—The total number of persons of school age in the town is 165. The school is graded, and consists of three departments, each occupying a separate room. There are two sessions daily of three hours each, with the usual recesses for outdoor exercise. In time of an epidemic pupils are required to furnish vaccination certificates as a condition of admission, but such rules are not thoroughly enforced at other times. The building is a brick structure, and the rooms are all on the ground floor. It was built at an early date, and was originally used as a court house, but since the removal of the county seat it has been used for its present purpose. The grounds consist of an open square about 100 feet on each side, and occupy the summit of a hill. The building is heated by soft-coal stoves, and the rooms are lighted and ventilated by the windows, which are ample for both purposes. Well water of a good quality is used, and the privy arrangements are unexceptionable. The desks used are of an improved pattern.

There is also a school for colored children, located in an opposite part of the town. The building is frame, and consists of one room, provided with ordinary conveniences.

WHILE there is much valuable information in the foregoing surveys it is only just to those who have furnished them to say that experience has shown the necessity of further revision of the Schedules of Questions. These may be materially reduced in number and at the same time improved in point and pertinency. Such revision is now being made, and it is hoped thereby to materially simplify the work of the compiler and at the same time to develop more thoroughly the important sanitary features of the various cities and towns of the State. The essentials of a sanitary survey were summed up by Plato, more than twenty-two hundred years ago, in his advise to physicians on the observations they should make touching matters bearing upon the public health: When you have selected the city of your future residence, consider well its situation—how it lies to the winds and to the rising of the sun, whether north and south or east and west. Consider also attentively the waters which the inhabitants use—whether they be marshy and soft or hard and running from elevated and rocky situations, and then if saltish and unfit for cooking. And the ground, whether it be naked and deficient in water, or wooded and well-watered: and whether it lies in a hollow or is elevated and cold. And the mode in which the inhabitants live, and what are their pursuits; whether they are fond of eating and drinking to excess and given to indolence, or are fond of exercise and labor and not given to excess in eating and drinking. From these things you must proceed to investigate everything else. For if you know all these things well, you cannot miss knowing the diseases peculiar to the place and the particular nature of the common diseases. Thus you will be able to foretell what epidemic will attack the city, either in summer or winter, and what each individual will be in danger of experiencing from change of regimen. You will also not be in doubt as to the treatment of of the prevailing diseases.

Modern sanitary science is not content witn being able "to foretell what epidemic will attack the city," but strives to remove the causes to which all epidemics are due. It is less concerned with the "treatment of the prevailing diseases," than with their prevention. Its keynote is sounded in the apothegms with which the STATE BOARD prefaces its house-to-house inspection forms, to-wit: Knowledge of Defects and Evils is the First Step towards their Remedy: Cleanliness is the Best Protection against Cholera. And although the work of the past year must be regarded as chiefly valuable from an educational standpoint—so far as the perfection of a sanitary survey is concerned—it has resulted in practical benefit to the public health which it would be difficult to overestimate.

In acknowledging the receipts of the first circulars of the BOARD, urging the necessity of preparing for the advent of Asiatic cholera by a thorough cleaning-up and remedy of all defects and evils of a sanitary nature, there was a quite monotonous repetition of such phrases as "Our little town is as clean and healthy as any place of its size in the State"—"The sanitary condition of———is all that could be desired"—"We have no board of health, but the village is in first-class condition; will be glad to have you come and inspect us at any time." When the House-to-House Inspection was urged and the blanks, instructions, etc., were distributed, there was another influx of similar letters. The inspection seemed to many to be entirely superfluous, and from the consensus of statements received all premises were cleanly; all water supplies were unexceptionable; cloacæ were properly located and constructed, regularly emptied and disinfected; in short, there was generally a freedom from sanitary defects and evils and from nuisances of all kinds; but especially those of a private character, which—if it were true—must have made Illinois a veritable sanitary Utopia. These statements were honestly believed to be true, and it was not until the sanitary survey—secured by dint of much correspondence and personal effort, in some places by the health officer, in others by some one of the municipal authorities, in still others by a private physician or public-spirited citizen—it was not until the survey began to reveal the actual condition of affairs that the house-to-house inspection became general.

Herein lies the great value of the survey work thus far accomplished. Tentative and experimental as it has been to a large extent, it has, nevertheless, been the occasion of the discovery of a multitude of defects and evils which were not suspected or whose dangerous importance was overlooked. The knowledge so acquired has been the first step toward the remedy of the evils, and the survey has thus proved a prime factor in securing the 224,360 individual inspections which disclose the 474,831 defective conditions and nuisances and the remedy of over 90 per cent. of these, as already set forth.

With such a showing of results accomplished during the first year, it is an obvious duty to continuously prosecute this effort until the entire area of the State has been thoroughly covered. It is not too much to say that the people of this commonwealth are, taken as a whole, probably in advance of those of any other State in the Union in practical sanitary matters. They have responded to every effort of the State Board with a unanimity, intelligence and promptness without which the results would have been impossible—without a fore-knowledge of the existence of which it is doubtful if the effort would have been attempted. With such support the Board would be clearly derelict if it failed to push its sanitary labors to the utmost in whatever tends to promote the health and protect the life of the citizens of the State.

F.---VITAL STATISTICS.

VITAL STATISTICS OF ILLINOIS, 1885.

THROUGH the operation of the causes which have already been pointed out in previous reports of the BOARD, the returns of vital statistics continue to be unsatisfactory and incomplete. There is some practical improvement in the return of deaths, due to the enforcement of the burial-permit ordinance prepared by the BOARD, and the adoption of which it continues to urge. But this mainly affects the towns and cities and leaves almost uninfluenced the returns from the suburban and rural populations. In a perusal of the preceding pages the reader must have been struck with the frequency of the statement in the Sanitary Surveys of places to the effect that, "Vital statistics are not made matters of record except as births, marriages and deaths, respectively, are returned to the clerk by clergymen and physicians." And the abstracts of these returns, forwarded to the office of the BOARD, show how meagre and imperfect the records of these important matters when thus made must necessarily be unless the original certificates are faithfully returned to the county clerk as the law directs.

The effort to secure such changes and modification of this law as would tend to secure a faithful return, and to simplify its operation, were renewed at the session of the XXXIIId General Assembly, but failed solely through lack of time. There is no opposition to this revision and amendment among the legislators who have given any attention to the subject, and it is unnecessary to again recite the argument in their support. It is confidently believed that such legislation will be secured from the next legislature as will remove the difficulties and supply the deficiencies which now make the present act inoperative to so great an extent.

In order to show to what extent the returns as now made fall short of the actual figures, the following table has been compiled, showing the number of births and the number of deaths reported by each county during the five years—1 81 to 1885 inclusive. The extreme right-hand column of figures shows the minimum numbers which should have been returned, estimating the general birthrate of the State at 35 per thousand, and the deathrates as given in the column of "Minimum Death-rates." The population is uniformly that given in the Tenth Census, U. S., for the year 1880. Even with this minimum deathrate and stationary population the discrepancy is seen to be so great as to invalidate the returns, with a few exceptions, for any purposes of comparison or study. Owing to the efforts of the BOARD the returns of births and deaths to the county clerks for the first six months of 1886 have increased *twenty-five* per cent. and to the fact that burial permits are required by more towns and cities. The estimated death-rate for 1885 is a little over fourteen per thousand, a lower rate than probably has obtained since Illinois became a State, owing no doubt to the absence of epidemics and to the general cleaning up.

COMPARATIVE EXHIBIT OF BIRTHS AND DEATHS—*As reported, 1881-1885, inclusive: As Computed on Population in 1880, at Minimum Rates.*

THE STATE AND COUNTIES.	Population in 1880........	NUMBERS REPORTED.						NOS. COMPUTED ON MIN. RATES PER 1,000.	
		Births. Deaths	1881.	1882.	1883.	1884.	1885.	Death rate..	Numbers.
The State	3,077,871	B	54,034	46,978	46,179	45,879	47,477	......	109,725
	....	D	30,631	23,068	21,520	22,342	23,914	......	43,090
Adams.......................... ...	59,135	B	872	736	759	745	699	......	2,069
	....	D	554	451	545	334	245	16	946
Alexander........................	14 808	B	......	......	......	......	15	......	518
	....	D	......	......	......	......	13	16	236
Bond	14,866	B	409	358	382	408	299	......	520
	---	D	224	99	115	110	87	14	208
Boone	11,508	B	136	158	158	147	147	......	402
	....	D	105	73	75	77	65	14	161
Brown	13,041	B	224	174	158	......	143	......	456
	....	D	91	......	......	......	38	14	172
Bureau	33,172	B	445	453	478	395	363	......	1,161
	....	D	209	168	156	112	94	14	464
Calhoun	7,467	B	104	......	......	110	84	......	261
	....	D	95	......	......	49	60	14	104
Carroll...........................	16,976	B	231	249	244	237	142	......	594
	....	D	111	101	78	65	51	14	237
Cass	14,493	B	326	......	......	141	151	......	507
	....	D	......	......	......	48	40	14	202
Champaign	40,863	B	544	......	......	243	363	......	1,430
	....	D	148	......	......	61	107	14	572
Christian.........................	28,227	B	562	493	399	381	384	......	987
	....	D	172	94	86	93	89	14	395
Clark	. 21,894	B	422	388	391	327	367	. ....	766
	....	D	140	104	84	65	73	14	306
Clay	16,192	B	442	260	429	260	258	.....	566
	....	D	124	78	71	63	54	14	226
Clinton	18,714	B	. ....	......	......	......	477	......	654
	....	D	......	......	......	......	127	14	262
Coles	27,042	B	624	555	601	572	524	......	946
	....	D	216	153	155	144	118	14	378
Cook......	*607,524	B	14,880	16,464	17.411	17,921	18,249	......	21,263
	....	D	14,872	14,393	13,298	14,667	15,048	17	10,327
Crawford.........................	16,197	B	508	......	......	532	426	.....	566
	....	D	225	......	......	......	117	14	226
Cumberland	13,759	B	314	252	349	227	*37	......	480
	....	D	120	123	89	75	16	14	192

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* The population of Cook county has largely increased since the census of 1880, accounting for the estimated number of births and deaths being less than those actually reported.

Comparative Exhibit of Births and Deaths—Continued.

THE STATE AND COUNTIES.	Population in 1880.	Births, Deaths	NUMBERS REPORTED.					NOS. COMPUTED ON MIN. RATES PER 1,000.	
			1881.	1882.	1883.	1884.	1885.	Death rate.	Numbers.
DeKalb	26,768	B	232	259	284	182	195	.....	936
	....	D	104	71	......	64	36	14	374
DeWitt	17,010	B	258	233	208	173	182	......	595
	....	D	130	61	37	47	59	14	238
Douglas	15,853	B	320	358	308	295	209	......	554
	....	D	120	101	81	66	25	14	221
DuPage	19,161	B	255	259	233	235	240	......	650
	....	D	104	93	89	83	66	14	268
Edgar	25,499	B	576	506	599	458	322	......	893
	....	D	211	154	127	137	100	14	356
Edwards	8,597	B	250	234	283	257	279	......	300
	....	D	175	83	64	81	61	14	120
Effingham	18,920	B	261	191	270	156	212	.....	662
	....	D	80	48	80	38	54	14	256
Fayette	23,241	B	449	292	275	226	228	.....	813
	....	D	194	105	91	77	67	14	325
Ford	15,099	B	291	333	193	101	880	.....	528
	....	D	84	64	37	24	......	14	211
Franklin	16,129	B	274	247	183	188	155	......	564
	....	D	119	31	39	24	11	14	225
Fulton	41,240	B	547	369	344	260	335	......	1,443
	....	D	205	106	83	73	85	14	579
Gallatin	12,861	B	300	234	228	182	186	......	450
	....	D	145	79	81	63	52	14	180
Greene	23,010	B	306	214	232	205	151	.....	805
	....	D	131	70	105	65	38	14	322
Grundy	16,732	B	191	178	173	116	149	......	585
	....	D	82	......	90	82	84	14	228
Hamilton	16,712	B	453	345	355	373	260	......	584
	....	D	95	52	49	33	44	14	233
Hancock	35,337	B	546	494	388	350	307	.....	1,236
	....	D	228	......	......	......	114	14	494
Hardin	6,024	B	222	......	. ....	95	158	......	210
	....	D	95	......	......	43	38	14	84
Henderson	10,722	B	148	185	195	163	164	......	375
	....	D	50	52	12	45	44	14	150
Henry	36,597	B	660	576	475	589	452	......	1,280
	....	D	267	200	143	153	134	14	512
Iroquois	35,451	B	610	529	462	411	439	.....	1,240
	....	D	163	121	119	109	121	14	496
Jackson	22,505	B	298	......	......	......	167	....	787
	....	D	176	......	.... .	......	67	14	315
Jasper	14,515	B	528	380	483	434	349	......	508
	....	D	229	103	93	72	53	14	203
Jefferson	20,686	B	413	......	......	.....	154	......	724
	....	D	174	.....	......	......	87	14	289
Jersey	15,512	B	......	......	......	....	120	...	543
	....	D	......	......	......	......	41	14	217

Comparative Exhibit of Births and Deaths—Continued.

THE STATE AND COUNTIES.	Population in 1880.	Births. Deaths.	NUMBERS REPORTED.					NOS. COMPUTED ON MIN. RATES PER 1,000.	
			1881.	1882.	1883.	1884.	1885.	Death rate.	Numbers.
JoDaviess	27,528	B	177	166	124	118	74	......	963
		D	72	53	41	43	36	14	385
Johnson	13,078	B	289	279	231	155	218	......	457
		D	116	30	60	36	47	14	183
Kane	41,939	B	541	......	......	......	610	......	1,572
		D	590	......	......	......	605	14	629
Kankakee	25,047	B	325	571	......	......	203	......	876
		D	70	203	......	......	187	14	350
Kendall	13,083	B	216	194	132	112	87	......	457
		D	94	85	53	47	47	14	183
Knox	38,344	B	549	520	379	325	375	......	1,342
		D	257	157	145	131	136	14	536
Lake	21,296	B	183	194	183	138	157	......	745
		D	125	82	73	71	109	14	298
LaSalle	70,403	B	1,061	1,010	847	931	819	......	2,464
		D	337	273	273	262	258	15	1,056
Lawrence	13.663	B	373	321	322	350	328	......	478
		D	158	87	127	85	95	14	191
Lee	27,491	B	318	219	185	166	79	......	962
		D	121	93	51	39	27	14	384
Livingston	38,450	B	512	406	378	283	214	......	1,345
		D	145	117	73	64	59	14	538
Logan	25,037	B	466	429	396	339	341	......	876
		D	176	106	98	81	59	14	350
Macon	30,665	B	482	541	589	504	451	......	1,073
		D	168	......	......	......	126	14	429
Macoupin	37,692	B	553	......	......	571	445	......	1,329
		D	......	......	......	205	137	14	517
Madison	50,126	B	958	......	......	......	423	......	1,754
		D	......	......	......	......	94	15	751
Marion	23,686	B	447	360	390	395	363	......	829
		D	175	79	105	104	75	14	331
Marshall	15,055	B	241	279	239	271	243	......	527
		D	110	......	93	......	55	14	210
Mason	16,242	B	101	178	98	164	146	......	244
		D	......	41	28	53	45	14	227
Massac	10,443	B	164	88	59	25	36	......	365
		D	68	23	16	12	16	14	146
McDonough	27,970	B	......	......	......	......	192	......	978
		D	......	......	......	......	23	14	391
McHenry	24,908	B	205	172	163	290	102	......	871
		D	106	55	64	59	49	14	348
McLean	60,100	B	812	764	694	675	662	......	2,103
		D	199	177	346	355	332	14	841
Menard	13,024	B	228	219	296	236	179	......	455
		D	112	68	85	73	39	14	182
Mercer	19,502	B	327	283	250	395	340	......	683
		D	128	63	72	36	95	14	273

Comparative Exhibit of Births and Deaths—Continued.

THE STATE AND COUNTIES.	Population in 1880	Births. Deaths	NUMBERS REPORTED					NOS. COMPUTED ON MIN. RATES PER 1,000.	
			1881.	1882.	1883.	1884.	1885.	Death rate	Numbers
Monroe	13,682	B	360	340	457	423	386	......	359
		D	134	150	119	139	116	14	191
Montgomery	28,078	B	755	659	625	578	555	....	982
		D	347	17	168	145	136	14	393
Morgan	31,514	B	......	......	......	......	464	......	1,103
		D	281	258	316	230	219	14	441
Moultrie	13,699	B	318	296	317	281	294	......	481
		D	87	60	75	67	59	14	191
Ogle	29,937	B	225	150	101	89	134	......	1,048
		D	108	38	33	30	48	14	419
Peoria	55,355	B	1,129	1,166	1,095	835	722	......	1,958
		D	411	343	243	163	127	15	830
Perry	16,007	B	252	179	168	119	194	......	560
		D	183	72	68	50	62	14	224
Piatt	15,583	B	201	190	187	213	202	......	545
		D	76	44	47	33	50	14	218
Pike	33,751	B	414	336	364	271	197	......	1,181
		D	217	162	102	91	90	14	472
Pope	13,256	B	271	290	......	163	124	......	463
		D	137	.....	......	50	25	14	185
Pulaski	9,507	B	......	6	2	6	6	......	332
		D	......	6	14	7	52	15	142
Putnam	5,554	B	85	50	55	31	51	......	193
		D	37	17	10	6	7	14	77
Randolph	25,690	B	558	427	374	328	325	......	899
		D	251	159	120	105	90	14	359
Richland	15,545	B	410	255	303	236	242	......	544
		D	137	105	72	59	35	14	217
Rock Island	38,302	B	723	593	578	666	518	......	1,340
		D	464	306	236	250	227	15	574
Saline	15,940	B	169	83	53	18	3	......	557
		D	60	13	4	3	......	14	223
Sangamon	52,894	B	762	738	732	527	435	......	1,845
		D	300	168	192	111	110	15	793
Schuyler	16,249	B	252	215	197	148	202	......	568
		D	115	69	39	27	34	14	227
Scott	10,741	B	183	142	67	63	67	......	375
		D	90	......	......	......	18	14	150
Shelby	30,270	B	619	458	430	337	246	......	1,059
		D	227	119	87	47	51	14	423
Stark	11,207	B	125	75	79	33	23	......	392
		D	52	22	20	4	6	14	156
St. Clair	61,806	B	1,265	1,109	1,131	1,047	970	......	3,163
		D	558	269	411	348	333	15	927
Stephenson	31,963	B	597	540	769	428	437	......	1,118
		D	202	173	117	141	76	14	447
Tazewell	29,666	B	416	427	397	352	445	.....	1,038
		D	112	126	111	132	122	14	415

Comparative Exhibit of Births and Deaths—Continued.

THE STATE AND COUNTIES.	Population in 1880	Births. Deaths	NUMBERS REPORTED.					NOS. COMPUTED ON MIN. RATES PER 1,000.	
			1881.	1882.	1883.	1884.	1885.	Death rate.	Numbers.
Union..............................	18,102	B	356	321	297	306	300	......	633
	....	D	175	113	157	157	104	14	253
Vermilion	41,588	B	607	534	529	506	398	....	1,455
	....	D	240	137	145	153	132	14	582
Wabash........	9,945	B	267	242	276	306	266	.... .	348
	....	D	116	......	95	80	84	14	139
Warren....	22,933	B	418	442	358	418	423	.....	803
	....	D	223	199	168	179	161	14	321
Washington......................	21,112	B	480	......	......	......	540	......	508
	....	D	191	......	......	......	45	14	295
Wayne.............................	21,291	B	490	434	457	349	289	......	745
	....	D	252	103	97	57	47	14	298
White....	23,087	B	606	652	671	668	283	......	808
	....	D	331	......	.....	88	78	14	323
Whiteside	30,885	B	513	455	433	564	435	......	1,081
	....	D	163	155	119	140	143	14	432
Will	53,422	B	......	......	......	......	269	......	1,870
	....	D	......	......	......	......	102	15	801
Williamson....	19,324	B	366	298	226	182	132	......	676
	....	D	105	92	39	19	22	14	270
Winnebago............	30,505	B	490	476	505	474	558	......	1,067
	....	D	189	136	151	135	130	14	427
Woodford.........................	21,620	B	327	281	313	277	277	......	756
	....	D	134	81	78	78	74	14	302

VITAL STATISTICS OF ILLINOIS—DEATHS.

TABLE I.—*Deaths from Specified Causes (classified) reported in Illinois during the year 1885:* AT GIVEN AGES.

CAUSES OF DEATH.	AGES.													
	Under 1 year	Between 1 and 6 years.	5–10 years....	10–15 years...	15–20 years...	20–30 years...	30–40 years...	40–50 years...	50–60 years...	60–70 years...	70–80 years...	80–90 years ..	Over 90 years	Totals ....
Total deaths from all causes.......	6,442	3,581	1,043	579	833	2,417	2,034	1,765	1 653	1,628	1,250	632	56	23,914
I.—Specific, Febrile or Zymotic Diseases.......	1,828	1,636	556	229	232	600	362	195	162	142	80	30	2	6,054
A.—MIASMATIC DISEASES.......	560	1,252	514	199	174	418	214	96	76	58	28	8	......	3,597
Small-pox.......	3	5	7	6	9	10	10	1	2	2	......	......	......	55
Chicken-pox.......	1	1	......	......	......	......	......	......	......	......	......	......	......	2
Measles.......	31	61	9	1	......	4	1	1	......	......	......	......	......	108
Scarlet fever.......	28	292	123	25	9	5	1	1	......	......	......	......	......	484
Typhus fever.......	......	2	3	......	2	14	8	1	1	2	......	......	......	33
Influenza.......	2	2	1	......	......	1	......	......	2	......	2	......	......	10
Mumps.......	1	2	1	......	......	1	......	......	......	......	......	......	......	5
Diphtheria.......	103	479	232	55	15	14	7	2	......	2	......	1	......	910
Cerebro-spinal fever.......	278	296	61	38	22	35	23	20	16	16	8	1	......	814
Whooping-cough.......	92	55	4	1	......	......	......	......	2	......	......	......	......	151
Continued fever.......	3	15	11	11	11	38	15	9	6	4	8	......	......	131
Enteric fever.......	11	36	59	62	106	289	145	57	44	32	10	6	......	857
Other miasmatic diseases.......	7	6	3	......	......	7	4	4	3	......	......	......	......	34
B.—DIARRHETIC DISEASES.......	1,150	297	9	8	5	25	28	21	40	36	26	12	......	1,657
Cholera infantum.......	954	227	......	......	......	......	......	......	......	......	......	......	......	1,181
Cholera morbus.......	5	5	3	1	1	5	4	5	15	9	5	3	......	61
"Winter cholera".......	1	1	......	......	......	......	......	1	......	......	1	......	......	4
Diarrhea.......	134	20	2	2	3	7	14	8	17	10	7	4	......	228
Dysentery.......	56	44	4	5	1	13	10	7	8	17	13	5	......	183

Table I.—Continued.

CAUSES OF DEATH.	AGES.													
	Under 1 year	Between 1 and 5 years.	5–10 years....	10–15 years.	15–20 years...	20–30 years ..	30–40 years...	40–50 years...	50–60 years...	60–70 years...	70–80 years...	80–90 years...	Over 90 years	Totals ....
C.—MALARIAL DISEASES	45	59	23	11	16	41	23	28	23	29	14	4	1	317
Intermittent fever	8	3	6	2	......	7	3	5	......	3	1	1	......	39
Remittent fever	26	41	7	6	7	21	11	11	10	17	7	2	......	166
Congestive fever	9	10	9	3	7	11	8	9	9	7	5	1	1	89
Other malarial diseases	2	5	1	......	2	2	1	3	4	2	1	......	......	23
E.—ZOÖGENOUS DISEASES	1	......	1	......	......	......	......	2	1	1	......	......	......	6
Hydrophobia	......	......	......	......	......	......	......	......	1	......	......	......	......	1
Other zoögenous diseases	1	......	1	......	......	......	......	2	......	1	......	......	......	5
E.—VENEREAL DISEASES	24	3	......	1	3	3	3	8	5	1	1	......	......	52
Syphilis	24	3	......	1	3	2	3	8	3	1	1	......	......	49
Other venereal diseases	......	......	......	......	......	1	......	......	2	......	......	......	......	3
F.—SEPTIC DISEASES	48	25	9	10	34	113	94	40	17	17	11	6	1	425
Phagedena	......	......	......	......	......	1	......	......	......	......	......	......	......	1
Erysipelas	32	2	1	1	2	7	10	10	10	4	5	3	1	88
Pyemia	9	11	4	5	5	7	10	11	2	4	2	1	......	71
Septicemia	7	12	4	4	12	16	17	12	4	9	4	2	......	103
Puerperal fever	......	......	......	......	15	82	57	7	1	......	......	......	......	162
II.—Parasitic Diseases	10	4	2	......	......	......	1	......	2	......	......	......	......	19
Thrush	10	1	......	......	......	......	......	......	1	......	......	......	......	12
Worms	......	3	1	......	......	......	......	......	......	......	......	......	......	4
Trichiniasis	......	......	1	......	......	......	......	......	......	......	......	......	......	1
Other parasitic diseases	......	......	......	......	......	......	1	......	1	......	......	......	......	2

III.—Dietic Diseases	5	3			1	10	23	33	12	7	2			96
Starvation	4	2			1				1					8
Scurvy	1	1												2
Alcoholism						5	19	26	10	7	2			69
Delirium tremens						5	4	7	1					17
IV.—Constitutional Diseases	298	158	38	64	218	812	576	505	362	247	161	19	2	3,460
Rheumatic fever		3	4	3	1	6	2	1	1		1			22
Rheumatic heart		1		1	2	1	2	1	4	4	3			19
Rheumatism		3	2	10	2	10	7	11	13	10	9	5		82
Gout					1									1
Rickets	2	5												7
Cancer	3	4	3		2	17	45	106	113	87	55	4	2	411
Tabes mesenterica	177	40	3	4	1	4	3	8	9	12	21	5		287
Tubercular meningitis	57	40	6	4	3	13	6	2		1	2			134
Phthisis	37	49	15	33	190	721	484	352	193	116	61	5		2 262
Scrofula	14	8	2	2	3	10	2	3	3	4	1			52
Purpura	1						2	3			1			7
Anemia	5	3	2	2	3	8	7	4	7	2				43
Diabetes mellitus	1	1		3	6	6	12	6	16	6	3			60
Other constitutional diseases	1	1	1	2	4	13	4	8	3	5	1			43
V.—Developmental Diseases	530	7								39	166	263	36	1,041
Premature birth	369													369
Atelectasis	19	2												21
Cyanosis	32	5												37
Spina bifida	20													20
Other congenital defects	80													80
Umbilical hemorrhage	10													10
Old age										39	166	263	36	504
VI.—Local Diseases	2,919	1,642	358	208	265	677	766	742	880	960	695	267	12	10,391
A.—NERVOUS SYSTEM	1,203	310	49	49	47	87	162	174	199	227	185	73	5	2,770
Inflammation of brain	66	56	15	3	4	10	11	11	9	3	3	3		197
Apoplexy	11	8	6	7	14	23	72	62	87	97	73	29	1	490
Softening of brain	3	2	1	2	2		7	11	15	18	15	4	1	81
Hydrocephalus not acute	36	17						1	1			1		56
Hemiplegia	1					1	2	3	6	10	6	1		30
Paralysis agitans	1			2		1	1	3	2	5	6	6	2	29
General paralysis of insane					3	14	22	28	20	20	8	2		117
Paraplegia						1	3	3	1	1	1			10
Chorea	1		1	4	1									7
Epilepsy	5	4		6	8	10	7	5	4	1				50

Table 1.—Continued.

Causes of Death.	Ages.													
	Under 1 year	Between 1 and 5 years.	5-10 years	10-15 years	15-20 years	20-30 years	30-40 years	40-50 years	50-60 years	60-70 years	70-80 years	80-90 years	Over 90 years	Totals
Convulsions	980	199	10	4	3	2	2	3	......	1	3	1	......	1,208
Trismus nascentium	22	......	......	......	......	......	......	......	......	......	......	......	......	22
Tetanus	33	1	8	13	5	2	8	5	4	1	2	......	......	82
Diseases of spinal cord	3	2	2	......	3	4	3	9	3	4	1	......	......	34
Other diseases, nervous system	41	21	6	8	4	19	24	27	47	66	67	26	1	357
B.—ORGANS OF SPECIAL SENSE	1	1	......	......	......	......	......	1	......	......	1	......	......	4
Epistaxis	......	......	......	......	......	......	......	......	......	......	1	......	......	1
Other diseases, nose, ear and eye	1	1	......	......	......	......	......	1	......	......	......	......	......	3
C.—CIRCULATORY SYSTEM	31	18	40	37	43	109	115	126	175	181	117	37	3	1,032
Endocarditis	......	1	5	6	4	3	8	4	9	2	4	......	......	46
Pericarditis	2	1	4	3	4	7	7	7	6	......	4	2	......	47
Hypertrophy of heart	......	1	2	......	......	2	6	5	7	14	8	2	1	48
Angina pectoris	......	......	......	......	......	4	3	3	8	8	6	3	......	35
Valve disease of heart	3	8	7	8	10	33	30	29	36	39	17	5	......	225
Syncope	1	......	1	......	......	1	......	1	1	......	2	......	......	7
Aneurism	......	......	......	......	......	1	1	5	6	4	......	1	......	18
Senile gangrene	......	......	......	......	......	......	......	......	2	16	7	3	......	28
Embolism	6	1	1	......	4	6	9	9	5	12	15	3	......	71
Phlebitis	1	......	......	......	......	2	2	1	3	1	......	......	......	10
Varicose veins	......	......	......	......	......	......	......	......	1	......	......	......	......	1
Other diseases, circulatory system	18	6	20	20	21	50	49	62	91	85	54	18	2	496
D—RESPIRATORY SYSTEM	912	1,036	198	62	74	192	192	205	241	288	210	84	3	3,697
Laryngitis	2	66	10	......	......	3	2	1	......	2	......	......	......	86
Croup	63	469	105	9	1	1	1	......	......	......	......	......	......	649
Other diseases, larynx and trachea	1	2	......	......	1	......	1	......	1	......	......	......	......	6
Emphysema	1	......	......	......	......	......	1	3	3	3	4	......	......	15
Asthma	4	4	1	......	......	4	7	12	12	19	14	6	2	85

Bronchitis	157	191	14	6	1	11	18	26	30	50	52	27		883
Pneumonia	349	265	45	25	46	110	112	116	153	179	114	42	1	1,557
Typhoid pneumonia	15	16	13	17	21	45	31	34	27	19	17	3		258
Pleurisy	1	2	2	3	2	3	10	6	8	4	4	3		48
Other diseases, respi tory system	19	21	8	2	2	15	9	7	7	12	5	3		110
E—DIGESTIVE SYSTEM	710	233	42	48	58	137	150	152	179	173	91	40	1	2,047
Stomatitis	12	11												23
Dentition	23	13												36
Sore throat	3	6	1	1	1				1		1			14
Dyspepsia	30	1						4	4	4	1	1		45
Hematemesis							1	1	1		1			4
Melana										2	1			3
Disease of stomach	48	14	4	2	5	19	17	21	27	28	16	11	1	213
Enteritis	296	102	3	10	8	15	11	6	13	11	9	4		488
Ulceration of intestines	4	2	2	2	5	8	3	5	2	2	1			36
Ileus	1	5		1	1	2	3	4	1	1		1		30
Stricture and strangulation of intestines	1					1		1			2	1		6
Intussusception	5			3	1	4	2	5	8	4	1			33
Hernia	8				2	2	6	6	9	8	1	3		45
Fistula		1				2	2		1	2				8
Peritonitis	62	26	19	21	23	56	53	25	30	23	20	6		364
Ascites			2	2		4	2	3	4	9	2	1		29
Gallstones								1	1	1		1		1
Jaundice	25	1	1		1		2	5	10	5	1	1		52
Cirrhosis						3	14	19	24	12	2	2		76
Other diseases of liver	11	5	1	1	6	9	17	20	22	30	16	5		143
Other diseases, digestive system	201	46	9	5	5	12	17	26	21	31	19	3		395
F—LYMPHATIC SYSTEM	1	2			4	2	3	6	1	2				21
Disease of lymphatics		1												1
Disease of spleen	1	1			4	2	3	6	1	2				20
G—GLAND-LIKE ORGANS OF UNCERTAIN USE	2					2	1	1	1	1		1		9
Bronchocele	2						1		1	1		1		6
Addison's disease						2		1						3
H—URINARY SYSTEM	21	40	25	7	16	45	65	49	62	75	74	31		510
Nephritis	11	26	15	1	2	10	9	9	11	16	8	5		123
Bright's disease	1	9	6	4	7	21	30	28	38	39	38	11		232
Uremia	4	4		2	2	9	12	6	4	8	7	2		60
Suppression of urine	3					1	1							5
Calculus						1		1		1	1	1		5
Hematuria	1													1

Table I—Continued.

CAUSES OF DEATH.	AGES.													
	Under 1 year	Between 1 and 5 years.	5-10 years. ..	10-15 years...	15-20 years...	20-30 years...	30-40 years...	40-50 years...	50-60 years...	60-70 years...	70-80 years...	80-90 years...	Over 90 years	Totals. ......
Disease of bladder and prostate	1	......	1	......	2	1	3	2	1	......	10	5	......	26
Other diseases, urinary system	......	1	3	......	3	2	10	3	8	11	10	7	......	58
I—REPRODUCTIVE ORGANS	1	......	2	1	19	95	71	28	15	4	9	1	......	246
a. Organs of Generation	1	......	2	1	3	22	15	18	15	4	9	1	......	91
Ovarian disease	......	......	......	......	......	5	4	1	5	3	1	......	......	19
Disease of uterus and vagina	......	......	1	......	......	7	5	7	6	1	2	1	......	30
Disorders of menstruation	......	......	......	1	3	3	......	1	1	......	......	......	......	9
Pelvic abscess	......	......	......	......	......	5	3	6	1	......	3	......	......	18
Perineal abscess	......	......	......	......	......	......	1	......	......	......	1	......	......	2
Diseases of testes, penis, etc.	1	......	1	......	......	2	2	3	2	......	2	......	......	13
b. Parturition.	......	......	......	......	16	73	56	10	......	......	......	......	......	155
Abortion	......	......	......	......	......	1	3	......	......	......	......	......	......	4
Miscarriage	......	......	......	......	......	3	7	......	......	......	......	......	......	10
Puerperal mania	......	......	......	......	......	7	2	......	......	......	......	......	......	9
Puerperal convulsions	......	......	......	......	8	21	3	3	......	......	......	......	......	35
Placenta prævia	......	......	......	......	1	3	5	......	......	......	......	......	......	9
Flooding	......	......	......	......	1	2	3	......	......	......	......	......	......	6
Phlegmasia dolens	......	......	......	......	2	3	2	1	......	......	......	......	......	8
Other complications of childbirth	......	......	......	......	4	33	31	6	......	......	......	......	......	74
K—LOCOMOTOR SYSTEM.	2	1	1	3	3	5	3	......	3	2	4	......	......	27
Caries and necrosis	1	......	......	1	1	2	1	......	......	......	1	......	......	7
Arthritis	......	......	......	1	......	1	1	......	2	......	......	......	......	5
Ostitis	......	......	1	......	......	1	......	......	......	......	1	......	......	3
Other diseases, locomotor system	1	1	......	1	2	1	1	......	1	2	2	......	......	12

I.—INTEGUMENTARY SYSTEM	7	1	1	1	1	3	4	1	4	7	2			32
Carbuncle						1	1		1	1				4
Phlegmon	1	1	1											3
Lupus						1			1		1			3
Ulcer				1	1		2	1	1	5	1			12
Eczema	4								1					5
Pemphigus	2					1	1							4
Other diseases, integumentary system										1				1
VII.—Violence	39	68	60	60	89	240	202	168	101	78	32	8		1,145
Railroad accident	2	2	18	17	19	70	38	26	16	16	4	2		230
Other accident	31	66	40	41	52	120	100	84	52	40	22	5		656
Homicide	3		2	1	6	18	18	11	4	2		1		66
Suicide				1	12	31	44	47	29	20	6			190
Execution						1	2							3
VIII.—Otherwise Unclassified	816	61	29	14	28	78	105	122	134	155	114	45	4	1,708
Dropsy	11	2	8	3	3	11	20	19	26	41	24	5	1	174
Debility	27	3						2	5	14	11	2		64
Atrophy from inanition	431	12	1			1	2	2	2	5	3	4		463
Mortification	1	2	1	1		4	2	2	7	4	4	1		29
Tumor	1	1			2	4	5	11	10	7	3			44
Abscess	13	3	2	1	4	6	14	9	7	5	3	1		68
Hemorrhage	4		1	3	2	7	12	10	7	3	3	1		53
Sun stroke			1		3	8	8	7	4	7	8	1		47
Sudden—not stated	1	2			1		1		1	2	2			10
Ill-defined	179	25	10	5	9	28	28	48	47	52	46	28	3	508
Unknown	148	14	5	1	4	9	13	12	18	15	7	2		248

TABLE II.—*Deaths from Specified Causes (classified) reported in Illinois during the year 1885:* SEX, COLOR, NATIVITY, SOCIAL CONDITION AND LOCALITY.

CAUSES OF DEATH.	SEX.		COLOR.		NATIVITY.			SOCIAL CONDITION.				LOCALITY.			Totals............
	Male	Female	White.......	Colored	Illinois.......	United States	Foreign......	Single	Married.....	Widower	Widow	Places over 5,000 pop....	Places between 500-5,000 pop....	Under 500 pop. or in country	
Total deaths from all causes	12,983	10,931	23,498	416	11,952	5,376	6,586	14,869	6,832	890	1,323	14,800	4,123	4,991	23,914
I.—Specific Febrile or Zymotic Diseases ..	3,099	2,955	5,941	113	3,889	1,061	1,104	4,897	969	74	114	3,827	1,048	1,179	6,054
A.—MIASMATIC DISEASES	1,877	1,720	3,528	69	2,279	624	694	3,030	500	31	36	2,387	613	597	3,597
Small-pox	28	27	16	39	14	31	7	39	16	......	......	12	40	3	55
Chicken-pox	1	1	2	......	2	......	......	2	......	......	......	1	....	1	2
Measles	52	56	106	2	95	8	5	105	3	......	......	71	24	13	108
Scarlet fever	226	258	484	......	371	70	43	484	......	......	......	346	81	57	484
Typhus fever......................................	18	15	33	......	3	5	25	13	19	......	1	28	4	1	33
Influenza...	4	6	10	......	6	3	1	6	1	......	3	2	....	8	10
Mumps	4	1	5	......	3	2	......	5	......	......	......	3	....	2	5
Diphtheria	464	446	903	7	696	119	95	898	11	......	1	662	147	101	910
Cerebro-spinal fever	449	365	801	13	605	113	96	727	76	7	4	576	116	122	814
Whooping-cough	70	84	154	......	141	10	3	152	2	......	......	100	24	30	154
Continued fever	55	76	129	2	59	38	34	71	52	1	7	66	25	40	131
Enteric fever.....................................	487	370	851	6	261	213	383	513	302	23	19	514	144	199	857
Other miasmatic diseases	19	15	34	......	23	9	2	15	18	......	1	6	8	20	34
B.—DIARRHETIC DISEASES	886	771	1,631	26	1,294	181	182	1,499	109	18	31	1,055	283	319	1,657
Cholera infantum	626	555	1,164	17	1,021	97	63	1,181	......	......	......	798	206	177	1,181
Cholera morbus	31	30	59	2	14	7	40	20	29	5	7	43	9	9	61
"Winter cholera"..................................	......	4	4	......	2	1	1	2	2	......	......	2	....	2	4
Diarrhea	129	99	226	2	151	38	39	175	39	5	9	137	37	54	228
Dysentery	100	83	178	5	106	38	39	121	39	8	15	75	31	77	183

C.—MALARIAL DISEASES	169	118	311	6	152	107	58	186	95	13	23	94	65	158	317
Intermittent fever	21	18	38	1	17	18	4	26	10	2	1	10	7	22	39
Remittent fever	95	71	161	5	84	44	38	108	44	5	9	63	32	71	166
Congestive fever	44	45	89	......	42	35	12	40	35	6	8	16	21	52	89
Other malarial diseases	9	14	23	......	9	10	4	12	6	......	5	5	5	13	23
D.—ZOÖGENOUS DISEASES	2	4	5	1	1	4	1	3	3	......	......	......	3	3	6
Hydrophobia	......	1	......	1	......	1	......	1	......	......	......	......	......	1	1
Other zoögenous diseases	2	3	5	......	1	3	1	2	3	......	......	......	3	2	5
E.—VENEREAL DISEASES	34	18	49	3	27	11	14	57	11	......	4	29	7	16	52
Syphilis	32	17	46	3	27	9	13	36	9	......	4	29	6	14	49
Other venereal diseases	2	1	3	......	......	2	1	1	2	......	......	......	1	2	3
F.—SEPTIC DISEASES	131	294	417	8	136	134	155	142	251	12	20	262	77	86	425
Phagedena	......	1	1	......	......	1	......	1	......	......	......	......	......	1	1
Erysipelas	49	39	87	1	41	23	24	45	27	5	11	51	10	27	88
Pyemia	42	29	70	1	32	17	22	43	23	2	3	48	12	11	71
Septicemia	40	63	99	4	31	48	24	43	50	5	5	60	24	19	103
Puerperal fever	......	162	160	2	32	45	85	10	151	......	1	103	31	28	162
II.—Parasitic Diseases	9	10	18	1	16	2	1	17	2	......	......	10	1	8	19
Thrush	5	7	12	......	11	1	......	12	......	......	......	9	1	2	12
Worms	3	1	4	......	4	......	......	4	......	......	......	......	......	4	4
Trichiniasis	......	1	1	......	1	......	......	1	......	......	......	......	......	1	1
Other parasitic diseases	1	1	1	1	......	1	1	......	2	......	......	1	......	1	2
III.—Dietic Diseases	68	28	92	4	14	27	55	36	43	12	5	66	9	21	96
Starvation	3	5	8	......	5	2	1	8	......	......	......	1	3	4	8
Scurvy	1	1	2	......	2	......	......	1	1	......	......	1	1	......	2
Alcoholism	48	21	65	4	2	22	45	17	36	11	5	52	4	13	69
Delirium tremens	16	1	17	......	5	3	9	10	6	1	......	12	1	4	17
IV.—Constitutional Diseases	1,704	1,756	3,369	91	1,089	1,001	1,370	1,487	1,629	141	203	2,103	616	741	3,460
Rheumatic fever	18	4	22	......	12	2	8	17	5	......	......	7	9	6	22
Rheumatic heart	11	8	18	1	4	9	6	5	13	1	......	10	5	4	19
Rheumatism	39	43	80	2	16	31	35	30	39	3	10	40	18	24	82
Gout	1	......	1	......	......	......	1	1	......	......	......	......	1	......	1
Rickets	4	3	7	......	7	......	......	6	1	......	......	6	......	1	7

Table II.—Continued.

CAUSES OF DEATH.	SEX.		COLOR.		NATIVITY.			SOCIAL CONDITION.				LOCALITY.			Totals
	Male	Female	White	Colored	Illinois	United States	Foreign	Single	Married	Widower	Widow	Places over 5,000 pop	Places between 500–5,000 pop	Under 500 pop. or in country	
Cancer	183	258	437	4	37	140	264	42	286	37	76	292	75	74	441
Tabes mesenterica	136	151	279	8	203	32	52	229	37	12	9	202	54	31	287
Tubercular meningitis	73	61	129	5	96	27	11	117	14	1	2	79	24	31	131
Phthisis	1,129	1 133	2,197	65	631	687	944	934	1,146	82	100	1,350	391	521	2,262
Scrofula	28	24	50	2	29	18	5	39	10	1	3	31	9	12	52
Purpura	5	2	7	......	3	2	2	2	4	......	1	3	2	2	7
Anemia	17	26	42	1	16	14	13	22	18	1	2	29	6	8	43
Diabetes mellitus	38	22	59	1	10	29	21	24	34	2	.....	35	13	12	60
Other constitutional diseases	22	21	41	2	25	10	8	19	22	1	1	19	9	15	43
V.—Developmental Diseases	531	510	1,027	14	546	200	295	575	.119	119	198	584	209	248	1,041
Premature birth	205	164	361	8	369	......	.....	369	.....	.....	.....	243	71	55	369
Atelectasis	13	8	21	......	16	3	2	21	......	......	......	10	4	7	21
Cyanosis	14	23	37	......	35	2	......	37	......	.....	......	21	9	7	57
Spina bifida	13	7	20	......	15	5	......	20	......	......	.....	8	5	7	20
Other congenital defects	37	43	80	......	76	4	......	80	.....	......	......	49	12	19	80
Umbilical hemorrhage	6	4	10	.... .	8	2	......	10	....	.....	.....	6	2	2	10
Old age	243	261	498	6	27	184	293	38	149	119	198	247	106	151	504
VI.—Local Diseases	5,656	4,735	10,255	136	5,189	2,332	2,870	6,175	3.115	426	675	6,566	1,712	2,113	10,391
A.—NERVOUS SYSTEM	1,550	1,220	2,730	40	1,648	559	563	1,909	618	103	140	1,813	435	522	2.770
Inflammation of brain	98	99	193	4	134	34	29	154	37	1	5	101	42	51	197
Apoplexy	291	199	485	5	149	149	192	192	219	34	45	279	96	115	490
Softening of brain	45	36	80	1	12	21	45	17	52	6	6	48	14	19	81
Hydrocephalus—not acute	37	19	55	1	47	8	1	56	......	.....	......	48	5	3	56
Hemiplegia	15	15	30	......	7	8	15	5	17	4	4	19	4	7	30
Paralysis agitans	15	14	29	......	11	7	11	6	13	3	7	11	8	10	29
General paralysis of insane	66	51	113	4	26	47	44	28	69	7	13	49	8	60	117
Paraplegia	7	3	9	1	1	5	4	1	8	1	......	4	2	4	10
Chorea	1	6	6	1	4	3	......	7	......	......	......	4	2	1	7

Epilepsy	30	20	50	......	25	14	11	35	14	1	......	25	5	20	50
Convulsions	663	545	1,191	14	1,063	100	45	1,201	5	1	1	953	118	107	1,208
Trismus nascentium	13	9	21	1	21	1	......	22	......	......	......	17	4	1	22
Tetanus	60	22	82	......	51	8	23	61	13	4	1	60	15	7	82
Diseases of spinal cord	22	12	32	2	10	8	16	19	13	1	1	18	8	8	34
Other diseases, nervous system	187	170	351	6	87	143	127	102	158	40	57	177	74	106	357
B.—ORGANS OF SPECIAL SENSE	......	4	3	1	2	......	2	2	1	......	1	3	1	......	4
Epistaxis	......	1	1	......	......	......	1	......	......	......	1	......	1	......	1
Other diseases, nose, ear and eye	......	3	2	1	2	......	1	2	1	......	......	3	......	......	3
C.—CIRCULATORY SYSTEM	536	496	1 020	12	193	335	501	317	529	73	113	637	181	214	1,052
Endocarditis	25	21	46	......	18	12	16	25	14	3	6	27	5	11	46
Pericarditis	30	17	46	1	14	10	23	20	18	7	2	34	3	10	47
Hypertrophy of heart	17	31	47	1	10	19	19	7	35	1	5	20	14	14	48
Angina pectoris	19	16	35	......	2	16	17	4	25	2	4	16	7	12	35
Valve-disease of heart	113	112	221	4	46	75	104	80	110	10	25	116	32	47	225
Syncope	4	3	7	......	5	2	...	2	2	2	1	4	2	1	7
Aneurism	14	4	18	......	2	2	14	8	9	1	......	9	4	5	18
Senile gangrene	11	17	28	......	6	14	8	4	14	3	7	11	9	8	28
Embolism	35	36	71	......	13	31	27	17	36	9	9	18	20	33	71
Phlebitis	4	6	10	......	1	......	9	3	6	1	......	10	......	......	10
Varicose veins	1	......	1	......	......	......	1	......	......	1	......	1	......	......	1
Other diseases, circulatory system	263	233	490	6	76	154	266	119	260	33	54	311	85	70	496
D.—RESPIRATORY SYSTEM	2,070	1,627	3,619	48	2,087	697	913	2 469	870	137	221	2,293	592	812	3,697
Laryngitis	45	41	86	......	67	12	7	78	8	......	......	65	10	11	86
Croup	352	297	648	1	517	72	60	617	2	......	......	443	123	83	649
Other diseases, larynx and trachea	2	4	6	......	3	1	2	5	1	......	......	3	1	2	6
Emphysema	10	5	14	1	2	2	11	5	5	3	2	11	......	4	15
Asthma	55	30	82	3	12	20	53	19	50	6	10	51	17	17	85
Bronchitis	472	411	872	11	608	96	179	687	123	26	47	683	86	114	883
Pneumonia	898	659	1,531	26	725	381	451	841	496	84	137	831	297	426	1,557
Typhoid pneumonia	146	112	255	3	98	71	89	108	126	11	13	116	31	108	258
Pleurisy	29	19	48	......	6	13	29	18	17	6	5	29	7	12	48
Other diseases, respiratory system	61	49	107	3	49	29	32	61	40	2	7	58	17	35	110
E.—DIGESTIVE SYSTEM	1,087	960	2,025	22	1,057	462	528	1,231	609	72	135	1 313	355	319	2,047
Stomatitis	16	7	23	......	11	8	4	12	10	......	1	10	3	10	23
Dentition	16	20	31	2	31	4	1	36	......	......	......	23	10	3	36
Sore throat	9	5	14	......	10	3	1	13	1	......	......	9	5	......	14
Dyspepsia	23	22	45	......	29	10	6	33	9	......	3	28	9	8	45
Hematemesis	3	1	4	......	......	1	3	......	3	......	1	3	......	1	4

Table II.—Continued.

Causes of Death.	Sex.		Color.		Nativity.			Social Condition.				Locality.			Totals ....
	Male	Female	White........	Colored......	Illinois	United States	Foreign	Single........	Married	Widower	Widow	Places over 500 pop.....	Places between 500–5,000 pop...	Under 500 pop. or in country....	
Melana	1	2	3	......	......	3	......	......	2	1	......	......	......	3	3
Disease of stomach	114	99	212	1	85	59	69	91	91	17	14	118	41	54	213
Enteritis	274	214	485	3	372	60	56	428	29	7	14	380	56	52	488
Ulceration of intestines	19	17	36	......	10	16	10	19	15	1	1	20	4	12	36
Ileus	14	16	30	......	16	4	10	19	10	......	1	28	......	2	30
Stricture and strangulation of intestines	3	3	6	......	3	3	......	2	1	1	2	3	2	1	6
Intussusception	21	12	33	......	9	8	16	9	18	2	4	18	12	3	33
Hernia	29	16	43	2	10	9	26	16	21	2	6	21	13	11	45
Fistula	4	4	8	......	......	4	4	3	4	......	1	6	......	2	8
Peritonitis	160	204	357	7	141	106	117	191	134	11	28	216	71	77	364
Ascites	14	15	29	......	7	9	13	6	15	2	6	19	5	5	29
Gallstones	2	2	4	......	......	1	3	1	3	......	......	4	......	......	4
Jaundice	32	20	52	......	30	14	8	30	16	2	4	29	9	14	52
Cirrhosis	53	23	76	......	......	18	58	3	58	9	6	59	13	4	76
Other diseases of liver	71	72	140	3	35	52	56	37	77	10	19	71	31	41	143
Other diseases, digestive system	209	186	391	4	258	70	67	282	82	7	24	278	71	46	395
F.—LYMPHATIC SYSTEM	18	3	20	1	4	9	8	9	10	......	2	13	2	6	21
Disease of lymphatics	1	......	1	......	......	1	......	1	......	......	......	......	......	1	1
Disease of spleen	17	3	19	1	4	8	8	8	10	......	2	13	2	5	20
G.—GLAND-LIKE ORGANS OF UNCERTAIN USE	4	5	9	......	3	3	3	3	5	......	1	5	......	4	9
Bronchocele	1	5	6	......	2	2	2	2	3	......	1	4	......	2	6
Addison's disease	3	......	3	......	1	1	1	1	2	......	......	1	......	2	3
H.—URINARY SYSTEM	342	168	503	7	118	168	224	175	253	39	43	301	89	120	510
Nephritis	78	45	120	3	49	33	41	68	44	5	6	90	14	19	123
Bright's disease	147	85	230	2	39	76	117	58	128	22	24	141	42	49	232
Uremia	37	23	60	......	13	24	23	26	29	2	3	33	12	15	60
Suppression of urine	5	......	5	......	4	......	1	4	1	......	......	4	......	1	5

Calculus	4	1	5	......	1	1	3	1	3	......	1	2	1	2	5
Hematuria	1	......	1	......	......	1	......	1	......	......	......	......	......	1	1
Disease of bladder and prostate	23	3	21	2	3	12	11	5	15	3	3	6	8	12	26
Other diseases, urinary system	47	11	58	......	9	21	28	12	38	7	6	25	12	21	58
I.—REPRODUCTIVE ORGANS	19	227	241	5	59	84	103	34	198	1	13	135	42	69	246
a. Organs of Generation	19	72	88	3	18	30	43	18	60	1	12	61	16	14	91
Ovarian disease	......	19	19	......	1	6	12	5	11	......	3	15	4	......	19
Disease of uterus and vagina	......	30	29	1	5	7	18	2	23	......	5	22	5	3	30
Disorders of menstruation	......	9	9	......	7	2	......	3	6	......	......	2	4	3	9
Pelvic abscess	4	14	17	1	1	9	8	1	13	......	4	14	3	1	18
Perineal abscess	2	......	2	......	......	2	......	......	2	......	......	2	......	......	2
Diseases of testes, penis, etc	13	......	12	1	4	4	5	7	5	1	......	6	......	7	13
b. Parturition	......	155	153	2	41	54	60	16	138	......	1	74	26	55	155
Abortion	......	4	4	......	......	3	1	......	4	......	......	3	......	1	4
Miscarriage	......	10	10	......	2	3	5	......	10	......	......	6	1	3	10
Puerperal mania	......	9	9	......	1	3	5	......	9	......	......	6	2	1	9
Puerperal convulsions	......	35	33	2	13	15	7	3	32	......	......	14	3	18	35
Placenta prævia	......	9	9	......	......	2	7	......	8	......	1	5	2	2	9
Flooding	......	6	6	......	3	3	......	1	5	......	......	4	1	1	6
Phlegmasia dolens	......	8	8	......	1	4	3	1	7	......	......	2	3	3	8
Other complications of childbirth	......	74	74	......	21	21	32	11	63	......	......	34	14	26	74
K.—LOCOMOTOR SYSTEM	14	13	27	......	10	3	14	13	9	......	5	13	6	8	27
Caries and necrosis	3	4	7	......	3	......	4	5	1	......	1	5	......	2	7
Arthritis	3	2	5	......	2	......	3	1	3	......	1	2	2	1	5
Ostitis	2	1	3	......	1	1	1	2	......	......	1	1	2	......	3
Other diseases, locomotor system	6	6	12	......	4	2	6	5	5	......	2	5	2	5	12
L.—INTEGUMENTARY SYSTEM	16	16	31	1	10	12	10	15	14	1	2	13	10	9	32
Carbuncle	......	4	4	......	......	3	1	1	3	......	......	1	2	1	4
Phlegmon	1	2	3	......	2	1	......	3	......	......	......	2	......	1	3
Lupus	1	2	3	......	1	......	2	1	2	......	......	1	1	1	3
Ulcer	8	4	12	......	1	5	6	3	6	1	2	2	5	5	12
Eczema	3	2	5	......	4	1	......	5	......	......	......	3	2	......	5
Pemphigus	2	2	3	1	2	1	1	2	2	......	......	4	......	......	4
Other diseases, integumentary system	1	......	1	......	......	1	......	......	1	......	......	......	......	1	1

Table II.—Continued.

Causes of Death.	Sex.		Color.		Nativity.			Social Condition.				Locality.			Totals
	Male	Female	White	Colored	Illinois	United States	Foreign	Single	Married	Widower	Widow	Places over 5,000 pop	Places between 500–5,000 pop	Under 500 pop. or in country	
VII.—Violence	951	194	1,123	22	263	364	518	607	470	42	26	729	203	213	1,145
Railroad accident	218	12	227	3	49	72	109	117	105	4	4	144	57	29	230
Other accident	528	128	642	14	176	219	261	400	218	21	17	414	109	133	656
Homicide	51	15	62	4	16	29	21	33	30	1	2	39	12	15	66
Suicide	151	39	189	1	22	44	124	57	114	16	3	129	25	36	190
Execution	3	......	3	......	......	......	3	......	3	......	......	3	......	......	3
VIII.—Otherwise Unclassified	965	743	1,673	35	946	389	373	1,075	456	75	102	915	325	468	1,708
Dropsy	82	92	166	8	33	68	73	38	102	9	25	78	36	60	174
Debility	39	25	64	......	32	13	19	37	14	5	8	36	8	20	64
Atrophy from inanition	248	215	460	3	420	26	17	448	6	4	5	350	86	27	463
Mortification	20	9	28	1	7	10	12	12	13	3	1	12	8	9	29
Tumor	14	30	41	3	8	14	22	8	34	......	2	23	9	12	44
Abscess	33	30	68	......	32	22	14	32	30	4	2	31	14	23	68
Hemorrhage	25	28	50	3	10	20	23	20	27	2	4	23	14	16	53
Sun-stroke	33	14	47	......	6	12	29	14	26	3	4	24	4	19	47
Sudden—not stated	4	6	10	......	3	4	3	4	3	1	2	1	1	8	10
Ill-defined	308	200	499	9	237	139	132	276	151	42	39	256	102	150	508
Unknown	154	94	240	8	158	61	29	186	50	2	10	81	43	124	248

TABLE III.—*Deaths from Specified Causes (classified) reported in Illinois during the Year 1885:* MONTHS.

CAUSES OF DEATH.	MONTHS.												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Total deaths from all causes	2,201	1,957	2,022	2,039	1,937	1,686	2,529	2,369	2,013	1,722	1,700	1,739	23,914
I.—Specific Febrile or Zymotic Diseases	437	333	381	433	426	371	976	869	605	455	408	360	6,054
A.—MIASMATIC DISEASES	360	250	297	321	295	231	308	284	315	322	328	286	3,597
Small-pox	......	2	17	25	1	1	......	......	1	3	4	1	55
Chicken-pox	......	......	......	......	1	......	......	......	1	......	......	......	2
Measles	11	11	7	14	14	9	19	11	3	2	2	5	108
Scarlet fever	71	53	42	54	36	32	22	24	26	37	44	43	484
Typhus fever	3	2	2	1	3	1	5	3	6	2	3	2	33
Influenza	1	2	3	2	2	......	......	......	......	......	......	......	10
Mumps	......	......	......	1	......	1	1	......	......	2	......	......	5
Diphtheria	110	63	80	60	59	51	45	56	82	105	111	88	910
Cerebro-spinal fever	66	63	73	97	105	76	72	56	47	51	56	52	814
Whooping-cough	14	10	10	12	11	10	22	25	8	11	11	10	154
Continued fever	11	3	10	7	8	8	18	17	14	11	14	10	131
Enteric fever	70	35	45	44	53	40	100	92	123	97	83	75	857
Other miasmatic diseases	3	6	8	4	2	2	4	......	4	1	......	......	34
B.—DIARRHETIC DISEASES	19	12	14	35	66	86	592	510	209	72	19	23	1,657
Cholera Infantum	4	6	3	17	39	66	468	387	143	35	6	7	1,181
Cholera morbus	......	......	2	2	......	3	23	21	7	......	......	3	61
"Winter cholera"	1	1	......	......	......	......	......	......	......	......	......	2	4
Diarrhea	9	3	7	9	19	10	50	61	26	19	6	9	228
Dysentery	5	2	2	7	8	7	51	41	33	18	7	2	183

Table III.—Continued.

Causes of Death.	Months.												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
C.—Malarial Diseases	17	25	26	25	20	26	37	38	45	28	18	12	317
Intermittent fever	4	2	3	1	2	3	4	7	5	5	1	2	39
Remittent fever	7	10	15	17	12	16	19	15	29	12	9	5	166
Congestive fever	4	11	6	5	4	5	12	15	10	6	7	4	89
Other malarial diseases	2	2	2	2	2	2	2	1	1	5	1	1	23
E.—Zoögenous Diseases	......	......	......	......	......	1	......	......	2	1	1	1	6
Hydrophobia	......	......	......	......	......	......	......	......	......	......	......	1	1
Other zoögenous diseases	......	......	......	......	......	1	......	......	2	1	1	......	5
E.—Venereal Diseases	3	5	4	8	8	3	3	4	1	2	7	4	52
Syphilis	3	4	4	7	8	2	3	4	1	2	7	4	49
Other venereal diseases	......	1	......	1	......	1	......	......	......	......	......	......	3
F.—Septic Diseases	38	41	40	44	37	21	36	33	33	30	35	34	425
Phagedena	......	......	......	......	......	......	......	......	......	......	......	1	1
Erysipelas	7	9	12	12	8	3	9	7	......	7	7	7	88
Pyemia	10	6	3	3	5	5	8	9	5	6	4	7	71
Septicemia	4	7	8	6	9	7	10	10	17	8	9	8	103
Puerperal fever	17	19	17	23	15	9	9	7	11	9	15	11	162
II.—Parasitic Diseases	2	1	1	1	1	1	2	2	1	4	2	1	19
Thrush	1	......	1	......	1	......	2	1	1	2	2	1	12
Worms	1	1	......	......	......	1	......	......	......	1	......	......	4
Trichiniasis	......	......	......	1	......	......	......	......	......	......	......	......	1
Other parasitic diseases	......	......	......	......	......	......	......	1	......	1	......	......	2

III.—Dietic Diseases	7	4	5	14	9	13	6	6	12	7	5	8	96
Starvation				1	2		1	1	2	1			8
Scurvy								1			1		2
Alcoholism	6	4	4	9	4	12	2	3	9	6	4	6	69
Delirium tremens	1		1	4	3	1	3	1	1			2	17
IV. Constitutional Diseases.	300	291	329	310	299	275	295	309	258	267	271	256	3,460
Rheumatic fever	2	2	2	2	5	3	1				3	2	22
Rheumatic heart	1	1	2	1	1		2	1	2	2	4	2	19
Rheumatism	8	5	12	7	4	11	6	4	6	5	7	7	82
Gout		1											1
Rickets	1		2	1	2				1				7
Cancer	40	27	33	41	39	34	40	48	26	34	36	43	441
Tabes mesenterica	19	21	20	16	21	27	31	43	38	14	21	16	287
Tubercular meningitis	10	12	13	12	6	10	15	13	8	15	11	9	134
Phthisis	202	199	226	213	202	172	185	181	160	180	179	163	2.262
Scrofula	3	5	3	5	6	4	7	5	1	4	4	5	52
Purpura		1				1	1		3	1			7
Anemia	7		4	4	9	6	1	4	3	5			43
Diabetes mellitus	7	7	5	4	3	4	5	6	6	4	5	4	60
Other constitutional diseases		10	7	4	1	3	1	4	4	3	1	5	43
V. Developmental Diseases.	102	87	115	86	90	72	88	99	76	65	75	86	1,011
Premature birth	35	20	34	32	33	28	35	41	32	21	30	28	369
Atelectasis	1		3	2	2	3	1	3	1	2	1	2	21
Cyanosis	4	5	5	2	4	2	3	1	2	1	7	1	37
Spina bifida	2	1	1	2	2	1	2	3		3	2	1	20
Other congenital defects	9	5	11	8	8	8	10	5	3	3	3	7	80
Umbilical hemorrhage	1	1	1	2	2	1	1		1				10
Old age	50	55	60	38	39	29	36	46	37	35	32	47	504
VI. Local Diseases	1,073	1,029	963	969	887	706	887	806	830	700	714	827	10,391
A.—NERVOUS SYSTEM	253	241	226	226	210	221	287	260	251	179	193	193	2,770
Inflammation of brain	17	16	15	20	16	18	22	25	12	22	6	8	197
Apoplexy	38	40	29	39	50	33	47	48	52	32	36	16	490
Softening of brain	6	9	12	5	7	6	6	6	6	7	5	6	81
Hydrocephalus, not acute	6	3	3	6	6	6	4	8	5	3	4	2	56
Hemiplegia	4	1	3	3		4	5	1	4	4		1	30
Paralysis agitans	2	4	1	3	2	1	3	5	3	1	2	2	29
General paralysis of insane	10	16	15	7	9	8	8	10	12	8	7	7	117
Paraplegia	1		1	1	2	1		2	1			1	10
Chorea				1			1	3	2				7
Epilepsy	7	3	3	6	3	4	3	3	4	4	7	3	50

Table III.—Continued.

CAUSES OF DEATH.	MONTHS.												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
Convulsions	121	115	108	108	105	91	125	104	92	62	94	83	1,208
Trismus nascentium	2	3	1	......	2	1	3	3	5	1	......	1	22
Tetanus	2	2	1	1	7	7	26	11	11	4	5	5	82
Diseases of spinal cord	3	2	3	2	1	6	2	7	4	1	3	......	34
Other diseases, nervous system	34	27	31	24	30	35	32	24	38	30	24	28	357
B.—ORGANS OF SPECIAL SENSE	2	......	......	......	1	1	......	......	......	......	......	......	4
Epistaxis	......	......	......	......	1	......	......	......	......	......	......	......	1
Other diseases, nose, ear and eye	2	......	......	......	......	1	......	......	......	......	......	......	3
C.—CIRCULATORY SYSTEM	102	85	114	103	79	79	76	65	75	75	82	97	1,032
Endocarditis	4	4	9	8	1	3	2	4	3	2	......	6	46
Pericarditis	5	2	8	2	4	5	4	3	2	4	5	3	47
Hypertrophy of heart	4	8	2	5	2	6	4	4	1	2	6	4	48
Angina pectoris	1	4	4	4	1	1	6	3	2	4	4	1	35
Valve-disease of heart	20	19	24	25	16	16	16	13	18	21	15	22	225
Syncope	......	2	......	1	......	1	......	1	2	......	......	......	7
Aneurism	......	1	2	2	2	1	......	3	3	1	2	1	18
Senile gangrene	3	3	4	2	3	3	......	......	2	2	4	2	28
Embolism	7	6	3	10	11	5	7	2	5	5	5	5	71
Phlebitis	......	1	......	1	......	2	......	2	......	1	2	1	10
Varicose veins	......	......	......	1	......	......	......	......	......	......	......	......	1
Other diseases, circulatory system	58	35	58	42	39	36	37	30	37	33	39	52	496
D.—RESPIRATORY SYSTEM	521	489	434	396	283	191	165	153	224	240	258	343	3,697
Laryngitis	16	7	5	7	2	1	5	6	8	6	13	10	86
Croup	82	49	57	53	24	24	23	30	62	79	75	91	649
Other diseases, larnyx and trachea	......	......	......	......	2	1	......	......	2	......	......	1	6
Emphysema	1	4	2	1	......	1	......	......	2	1	3	......	15
Asthma	9	6	6	6	4	3	11	3	14	6	9	8	85

Bronchitis	130	135	104	84	89	50	45	54	56	51	35	50	883
Pneumonia	240	233	200	201	130	87	62	41	54	70	104	135	1,557
Typhoid pneumonia	25	37	47	25	16	10	12	12	18	18	14	24	258
Pleurisy	7	6	4	6	4	4	3		4	3	2	5	48
Other diseases, respiratory system	11	12	9	13	12	10	4	7	4	6	3	19	110
E.—DIGESTIVE SYSTEM	123	120	116	171	208	143	297	262	225	147	118	117	2,047
Stomatitis		2	1	6	4	1	1	2	1	2	2	1	23
Dentition	3	2	3	1	2	3	3	8	4	3	3	1	36
Sore throat	1	2		1	3			1	2	2	1	1	14
Dyspepsia	3	2	3	3	4	4	7	4	7		5	3	45
Hematemesis					2			1				1	4
Melana		1		1								1	3
Disease of stomach	15	19	17	13	29	14	21	22	24	17	14	8	213
Enteritis	13	12	23	25	50	40	99	85	73	33	21	14	488
Ulceration of intestines	2	4	1	2	2		7	5	3	3	3	4	36
Ileus	1		1	3	3	2	7	9	2		2		30
Stricture and strangulation of intestines		2					1		2	1			6
Intussusception	6	2	3	1	3	5	3	1	2	4	1	2	33
Hernia	7	5	4	4	3	2	3	5	2	5	2	3	45
Fistula	1			2		1	2		1		1		8
Peritonitis	26	22	24	45	40	26	49	33	31	21	19	25	364
Ascites	2	2	3	1	1	1	2	1	6	2	3	5	29
Gallstones	2				1		1						4
Jaundice	6	6	4	11	4	2	5	6	1	2	2	3	52
Cirrhosis	7	6	5	5	11	3	6	5	8	5	6	9	76
Other diseases of liver	11	12	9	14	10	11	13	12	12	13	9	17	143
Other diseases, digestive system	17	19	15	33	36	28	67	62	41	34	24	19	395
F.—LYMPHATIC SYSTEM	1	4		2	3	1	1		2	2	2	3	21
Disease of lymphatics	1												1
Disease of spleen		4		2	3	1	1		2	2	2	3	20
G.—GLAND-LIKE ORGANS OF UNCERTAIN USE	1		3		1			1		1	1	1	9
Bronchocele	1		2		1					1		1	6
Addison's disease			1					1			1		3
H.—URINARY SYSTEM	43	54	46	41	51	49	39	35	35	35	35	47	510
Nephritis	13	10	15	12	10	9	8	12	6	8	6	14	123
Bright's disease	17	31	22	15	18	24	22	14	18	12	19	20	232
Uremia	4	6	6	3	9	6	5	3	3	8		7	60
Suppression of urine	2			1	2								5
Calculus				2	1	2							5
Hematuria										1			1

Table III.—Continued.

CAUSES OF DEATH.	MONTHS.												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
Disease of the bladder and prostate	2	1	1	3	4	4	1	2	1	1	3	3	26
Other diseases, urinary system	5	6	2	5	7	4	3	4	7	5	7	3	58
I.—REPRODUCTIVE ORGANS	20	29	19	23	19	17	20	26	15	14	20	24	216
a. Organs of Generation	9	12	6	8	8	8	7	10	5	3	6	9	91
Ovarian disease	2	3	1	3	......	3	......	......	2	2	1	2	19
Disease of uterus and vagina	1	3	4	......	1	5	3	4	3	1	2	3	30
Disorders of menstruation	2	2	......	......	3	......	......	1	......	......	......	1	9
Pelvic abscess	2	4	......	......	......	......	3	4	......	......	2	3	18
Perineal abscess	......	......	......	......	1	......	......	1	......	......	......	......	2
Diseases of testes, penis, etc	2	......	1	5	3	......	1	......	......	......	1	......	13
b. Parturition	11	17	13	15	11	9	13	16	10	11	14	15	155
Abortion	......	1	......	......	......	......	......	1	......	1	1	......	4
Miscarriage	2	......	1	......	1	......	......	1	2	......	1	2	10
Puerperal mania	1	3	1	1	......	......	1	......	......	......	2	......	9
Puerperal convulsions	1	1	1	8	2	3	6	5	2	3	1	2	35
Placenta prævia	1	2	......	......	1	1	1	1	......	......	1	1	9
Flooding	......	......	......	2	......	......	1	1	......	......	1	1	6
Phlegmasia dolens	2	1	1	......	2	......	1	1	......	......	......	......	8
Other complications of childbirth	4	9	9	4	5	5	3	6	6	7	7	9	74
K.—LOCOMOTOR SYSTEM	7	3	1	3	2	2	2	2	2	2	......	1	27
Caries and necrosis	3	1	1	......	......	......	1	......	......	......	......	1	7
Arthritis	......	1	......	1	1	......	......	......	......	2	......	......	5
Ostitis	......	......	......	1	......	1	......	......	1	......	......	......	3
Other diseases, locomotor system	4	1	......	1	1	1	1	2	1	......	......	......	12

L.—INTEGUMENTARY SYSTEM	2	4	4	4	1	3	....	2	1	5	5	1	82
Carbuncle	....	1	1	1	....	....	....	....	....	....	1	....	4
Phlegmon	....	1	....	1	....	....	....	....	....	....	1	....	3
Lupus	1	....	....	....	....	1	....	....	1	....	....	....	3
Ulcer	1	2	2	....	....	2	....	1	....	1	1	1	13
Eczema	....	....	1	....	....	....	....	1	....	2	1	....	5
Pemphigus	....	....	....	2	1	....	....	....	....	1	....	....	4
Other diseases, integumentary system	....	....	....	....	....	....	....	....	....	1	....	....	1
VII.—Violence	75	78	93	94	82	124	121	101	95	101	91	84	1,145
Railroad accident	18	19	23	13	22	20	14	20	18	20	23	20	230
Other accident	38	47	46	53	46	75	74	56	60	66	50	45	656
Homicide	6	2	3	10	4	2	12	11	3	2	8	3	66
Suicide	13	10	21	18	10	27	21	14	14	13	13	16	190
Execution	....	....	....	....	....	....	....	....	....	....	3	....	3
VIII.—Otherwise Unclassified	205	134	135	132	113	124	154	177	136	123	128	117	1 708
Dropsy	13	11	12	15	24	15	15	15	10	21	13	10	174
Debility	5	6	6	6	5	9	6	8	3	2	3	5	64
Atrophy from inanition	32	34	37	29	47	30	50	57	44	28	38	37	463
Mortification	2	4	3	3	3	2	3	2	2	1	1	3	29
Tumor	6	4	5	3	2	5	3	4	1	2	6	3	44
Abscess	5	8	6	8	5	3	4	10	6	6	4	3	68
Hemorrhage	4	3	2	7	5	6	5	3	7	5	5	1	53
Sun-stroke	....	....	....	....	....	6	21	9	8	....	....	....	47
Sudden—not stated	1	1	2	2	....	2	....	1	....	....	....	1	10
Ill-defined	68	40	47	40	39	26	31	51	39	41	46	37	508
Unknown	69	23	15	19	13	20	10	17	16	17	12	17	248

TABLE IV.—*Deaths from Specified Causes (classified) reported in Cook County during the year 1885:* AT GIVEN AGES.

CAUSES OF DEATH.	AGES.													
	Under 1 year	Between 1 and 5 years.	5–10 years....	10–15 years ..	15–20 years...	20–30 years...	30–40 years...	40–50 years...	50–60 years...	60–70 years...	70–80 years...	80–90 years ..	Over 90 years	Totals ....
Total deaths from all causes	4,835	2,627	638	311	422	1,448	1,260	1,064	916	745	515	245	22	15,048
I.—Specific Febrile or Zymotic Diseases	1,336	1,185	329	119	109	382	225	95	76	49	26	9	1	3,941
A.—MIASMATIC DISEASES	401	950	316	108	90	282	141	54	33	18	10	1	......	2,404
Small-pox	......	1	2	1	1	1	2	......	......	......	......	......	......	8
Chicken-pox	1	......	......	......	......	......	......	......	......	......	......	......	......	1
Measles	19	56	6	1	......	1	......	......	......	......	......	......	......	83
Scarlet fever	14	214	72	11	3	3	1	......	......	......	......	......	......	318
Typhus fever	......	2	3	......	2	14	8	1	1	1	......	......	......	32
Influenza	1	......	......	......	......	......	......	......	......	......	......	......	......	1
Mumps	1	2	......	......	......	......	......	......	......	......	......	......	......	3
Diphtheria	73	379	154	37	8	11	6	2	......	1	......	......	......	671
Cerebro-spinal fever	219	228	39	21	12	22	17	14	11	6	4	......	......	593
Whooping-cough	63	42	1	1	......	......	......	......	......	......	......	......	......	107
Continued fever	2	5	7	5	4	24	6	3	2	2	1	......	......	61
Enteric fever	6	21	32	31	60	206	101	33	18	8	5	1	......	522
Other miasmatic diseases	2	......	......	......	......	......	......	1	1	......	......	......	......	4
B.—DIARRHETIC DISEASES	860	194	5	1	1	10	16	13	25	15	10	5	......	1,155
Cholera infantum	711	172	......	......	......	......	......	......	......	......	......	......	......	883
Cholera morbus	5	1	2	......	......	3	4	5	12	7	2	2	......	43
"Winter cholera"	1	......	......	......	......	......	......	1	......	......	1	......	......	3
Diarrhea	106	12	1	......	1	4	6	4	10	7	5	2	......	158
Dysentery	37	9	2	1	......	3	6	3	3	1	2	1	......	68
C.—MALARIAL DISEASES	19	21	3	3	2	14	3	6	4	5	2	1	......	83
Intermittent fever	3	......	......	1	......	3	......	2	......	......	1	......	......	10
Remittent fever	14	20	3	2	2	8	2	3	4	4	1	1	......	64

Congestive fever	2	1				2	1			1				7
Other malarial diseases						1		1						2
E.—VENEREAL DISEASES	22	2		1		2	2	4	2		1			36
Syphilis	22	2		1		1	2	4	1		1			34
Other venereal diseases						1			1					2
F.—SEPTIC DISEASES	31	18	5	6	16	74	63	18	12	11	3	2	1	263
Erysipelas	22	1				4	6	4	7	4		1	1	50
Pyemia	8	7	3	4	2	5	5	6	2	2	1	1		46
Septicemia	4	10	2	2	5	8	13	4	2	5	1			57
Puerperal fever					9	57	39	4	1					110
II.—Parasitic Diseases	9													9
Thrush	9													9
III.—Dietic Diseases						8	20	26	7	5	2			68
Starvation									1					1
Alcoholism						5	18	21	6	5	2			57
Delirium tremens						3	2	5						10
IV.—Constitutional Diseases	217	109	19	37	136	476	366	322	231	122	73	9	1	2,118
Rheumatic fever				1		2	1							4
Rheumatic heart					2	1	1		2	2				8
Rheumatism		3	1	2		6	5	9	6	5	3	1		41
Rickets	2	3												5
Cancer	3	1	2		2	14	30	76	80	44	26	2	1	281
Tabes mesenterica	157	30	1	2		1		3	6	5	14	4		223
Tubercular meningitis	31	30	3	2		2	1							69
Phthisis	15	33	9	25	125	441	311	226	122	61	28	2		1,401
Scrofula	5	6	1	2	3	5	1	3		1				27
Purpura								2						2
Anemia	4	3	2	1	2	2	4	1	5	1				25
Diabetes mellitus				2	2	2	9	2	10	3	2			32
V.—Developmental Diseases	331	2								22	91	118	14	578
Premature birth	237													237
Atelectasis	10													10
Cyanosis	22	2												24
Spina bifida	6													6

Table IV.—Continued.

CAUSES OF DEATH.	AGES.													
	Under 1 year	Between 1 and 5 years.	5–10 years....	10–15 years...	15–20 years...	20–30 years...	30–40 years...	40–50 years...	50–60 years...	60–70 years...	70–80 years...	80–90 years...	Over 90 years	Totals ....
Other congenital defects	50	......	......	......	......	......	......	......	......	......	......	......	......	50
Umbilical hemorrhage	6	......	......	......	......	......	......	......	......	......	......	......	......	6
Old age	......	......	......	......	......	......	......	......	......	22	91	118	14	245
VI.—Local Diseases	2,343	1,259	246	113	124	408	479	446	496	459	278	92	4	6,747
A.—NERVOUS SYSTEM	1,007	239	29	28	20	56	89	85	99	119	67	19	1	1,858
Inflammation of brain	38	28	7	1	2	4	5	10	5	1	1	......	......	102
Apoplexy	6	4	4	4	3	25	48	34	48	55	35	10	......	276
Softening of brain	......	......	......	......	1	......	4	4	10	12	3	1	......	35
Hydrocephalus not acute	32	17	......	......	......	......	......	......	......	......	......	......	......	49
Hemiplegia	1	......	......	......	......	1	1	2	3	7	1	......	......	16
General paralysis of insane	......	......	......	......	......	4	4	......	4	5	3	1	......	21
Paraplegia	......	......	......	......	......	......	2	2	1	......	1	......	......	6
Chorea	......	......	......	3	1	......	......	......	......	......	......	......	......	4
Epilepsy	3	2	......	1	4	7	2	3	2	......	......	......	......	24
Convulsions	851	174	7	3	1	......	......	1	......	......	1	......	......	1,038
Trismus nascentium	19	......	......	......	......	......	......	......	......	......	......	......	......	19
Tetanus	28	1	5	12	5	1	5	5	1	1	1	......	......	65
Diseases of spinal cord	......	......	1	......	1	3	3	6	3	3	......	......	......	20
Other diseases, nervous system	29	13	5	4	2	11	15	18	22	35	21	7	1	183
B.—ORGANS OF SPECIAL SENSE	1	1	......	......	......	......	......	......	1	......	......	......	......	3
Other diseases, nose, ear and eye	1	1	......	......	......	......	......	......	1	......	......	......	......	3
C.—CIRCULATORY SYSTEM	17	11	33	26	25	77	85	92	114	89	53	13	2	637
Endocarditis	......	1	5	4	2	1	7	2	3	......	1	......	......	26
Pericarditis	......	1	3	2	1	4	5	5	4	......	2	......	......	27
Hypertrophy of heart	......	1	1	......	......	......	2	2	2	2	2	......	......	12

Angina pectoris	......	......	......	......	......	4	3	2	5	......	4	1	......	19
Valve disease of heart	1	3	5	5	7	25	20	22	20	18	8	......	......	134
Syncope	1	......	1	......	......	......	......	......	......	......	......	......	......	2
Aneurism	......	......	......	......	......	1	......	4	3	2	......	......	......	10
Senile gangrene	......	......	......	......	......	......	......	......	......	3	3	1	......	7
Embolism	......	......	1	......	1	3	5	4	2	1	1	1	......	19
Phlebitis	......	......	......	......	......	1	2	1	2	1	......	......	......	8
Varicose veins	......	......	......	......	......	......	......	......	1	......	......	......	......	1
Other diseases, circulatory system	15	5	17	15	14	38	41	50	71	62	32	10	2	372
D—RESPIRATORY SYSTEM	670	806	135	23	29	97	106	120	122	126	81	37	1	2.356
Laryngitis	1	59	6	......	......	2	1	......	......	1	......	......	......	70
Croup	39	371	81	7	1	......	......	......	......	......	......	......	......	499
Emphysema	1	......	......	......	......	......	1	2	3	3	3	......	......	13
Asthma	3	2	......	......	......	1	4	8	9	9	5	6	......	47
Bronchitis	394	159	12	3	......	8	12	19	17	31	31	14	......	700
Pneumonia	221	193	26	10	21	54	58	67	74	68	39	16	1	851
Typhoid pneumonia	2	11	5	1	6	23	18	15	9	6	1	1	......	98
Pleurisy	......	2	1	1	1	2	6	4	6	2	3	......	......	28
Other diseases, respiratory system	6	9	4	1	......	7	6	5	4	6	2	......	......	50
E—DIGESTIVE SYSTEM	626	163	29	30	31	89	93	97	106	87	36	13	......	1,400
Stomatitis	6	2	......	......	......	......	......	......	......	......	......	......	......	8
Dentition	19	12	......	......	......	......	......	......	......	......	......	......	......	31
Sore throat	3	5	1	1	1	......	......	......	1	......	......	......	......	12
Dyspepsia	27	......	......	......	......	......	......	1	3	......	1	......	......	32
Hematemesis	......	......	......	......	......	......	1	1	1	......	......	......	......	3
Disease of stomach	31	9	3	1	2	10	8	10	10	16	8	4	......	115
Enteritis	265	72	1	6	4	10	8	3	7	3	4	1	......	381
Ulceration of intestines	1	......	1	2	4	5	2	3	......	2	......	......	......	20
Ileus	11	5	......	1	1	2	2	3	1	......	......	1	......	27
Intussusception	4	......	......	2	1	3	2	4	7	2	......	......	......	25
Hernia	1	......	......	......	1	1	1	4	7	4	1	2	......	22
Fistula	......	......	......	......	......	1	2	......	1	1	......	......	......	5
Peritonitis	43	17	14	14	13	40	37	18	14	14	6	2	......	232
Ascites	......	......	2	1	......	2	2	3	2	7	1	......	......	20
Gallstones	......	......	......	......	......	......	......	1	1	......	......	......	......	2
Jaundice	19	1	......	......	......	......	1	2	4	1	......	......	......	28
Cirrhosis	......	......	......	......	......	3	12	17	22	11	2	1	......	68
Other diseases of liver	5	2	1	......	1	6	6	12	10	12	5	1	......	61
Other diseases, digestive system	188	38	6	2	3	6	9	15	15	14	8	1	......	305
F—LYMPHATIC SYSTEM	......	2	......	......	4	2	1	2	1	1	......	......	......	13
Disease of lymphatics	......	1	......	......	......	......	......	......	......	......	......	......	......	1
Disease of spleen	......	1	......	......	4	2	1	2	1	1	......	......	......	12

Table IV.—Continued.

CAUSES OF DEATH.	AGES.													
	Under 1 year	Between 1 and 5 years.	5–10 years. . .	10–15 years. . .	15–20 years. . .	20–30 years. . .	30–40 years. . .	40–50 years. . .	50–60 years. . .	60–70 years. . .	70–80 years. . .	80–90 years. . .	Over 90 years	Totals. ......
G—GLAND-LIKE ORGANS OF UNCERTAIN USE .	1	......	......	......	......	1	......	1	......	1	......	1	......	5
Bronchocele..	1	......	......	......	......	......	......	......	......	1	......	1	......	3
Addison's disease..................................	......	......	......	......	......	1	......	1	......	......	......	......	......	2
H—URINARY SYSTEM..................................	15	36	19	4	7	33	48	31	37	30	31	9	......	300
Nephritis.....	10	25	14	......	2	8	7	7	8	8	4	......	......	93
Bright's disease................	......	7	3	3	4	16	20	20	23	16	19	3	......	134
Uremia...	3	4	......	1	1	7	10	2	4	1	2	1	......	36
Suppression of urine	2	......	......	......	......	1	1	......	......	......	......	......	......	4
Calculus	......	......	......	......	......	......	......	1	......	......	......	1	......	2
Disease of bladder and prostate..................	......	......	......	......	......	......	1	1	......	......	2	2	......	6
Other diseases, urinary system	......	......	2	......	......	1	9	......	2	5	4	2	......	25
I—REPRODUCTIVE ORGANS..........................	......	......	......	......	6	51	52	17	10	4	4	......	......	144
a. Organs of Generation........................	......	......	......	......	2	14	11	14	10	4	4	......	......	59
Ovarian disease..	......	......	......	......	......	4	3	......	3	3	......	......	......	13
Disease of uterus and vagina......................	......	......	......	......	......	5	3	6	5	1	......	......	......	20
Disorders of menstruation............................	......	......	......	......	2	......	......	......	......	......	......	......	......	2
Pelvic abscess.	......	......	......	......	......	5	2	5	1	......	2	......	......	15
Perineal abscess.	......	......	......	......	......	......	1	......	......	......	......	......	......	1
Diseases of testes, penis, etc.	......	......	......	......	......	......	2	3	1	......	2	......	......	8
b. Parturition.	......	......	......	......	4	37	41	3	......	......	......	......	......	85
Abortion....	......	......	......	......	......	1	1	......	......	......	......	......	......	2
Miscarriage...........	......	......	......	......	......	1	5	......	......	......	......	......	......	6
Puerperal mania..	......	......	......	......	......	5	2	......	......	......	......	......	......	7
Puerperal convulsions	......	......	......	......	3	11	1	......	......	......	......	......	......	15

Placenta prævia						3	4							7
Flooding					1	1	3							5
Phlegmasia dolens						1	2							3
Other complications of childbirth						14	23	3						40
K—LOCOMOTOR SYSTEM			1	1	1	1	2		3	1	2			12
Caries and necrosis				1	1	1	1				1			5
Arthritis									2					2
Ostitis			1											1
Other diseases, locomotor system							1		1	1	1			4
L—INTEGUMENTARY SYSTEM	6	1		1	1	1	3	1	3	1	1			19
Carbuncle									1					1
Phlegmon	1	1												2
Lupus											1			1
Ulcer				1	1		2	1	1	1				7
Eczema	3								1					4
Pemphigus	2					1	1							4
VII.—Violence	19	39	35	37	48	151	130	122	55	35	11	2		684
Railroad accident		1	10	10	11	46	24	17	12	8	1	1		141
Other accident	18	38	24	25	30	79	66	63	28	17	7			395
Homicide	1		1	1	2	9	13	7				1		35
Suicide				1	5	16	25	35	15	10	3			110
Execution						1	2							3
VIII.—Otherwise Unclassified	580	33	9	5	5	23	40	53	51	53	34	15	2	903
Dropsy	5	2	5	2		3	10	8	16	13	7	1		72
Debility	18	3						1	1	6	1			30
Atrophy from inanition	409	12					1	2	1	5	2	3		435
Mortification	1	1		1		1	1		3	1	2			11
Tumor	1	1				1	3	7	4	2	1			20
Abscess	12	2			2	1	3	3		3	1			27
Hemorrhage	1			1			5	4	2					13
Sun-stroke	1					3	1	3			1			9
Sudden—not stated							1							1
Ill-defined	100	11	3	1	3	14	14	23	20	23	19	11	2	244
Unknown	32	1	1				1	2	4					41

TABLE V.—*Deaths from Specified Causes (classified) reported in Cook County during the year 1885:* SEX, COLOR, NATIVITY, SOCIAL CONDITION AND LOCALITY.

CAUSES OF DEATH.	SEX.		COLOR.		NATIVITY.			SOCIAL CONDITION.				LOCALITY.			Totals.
	Male	Female	White	Colored	Illinois	United States	Foreign	Single	Married	Widower	Widow	Places over 5,000 pop.	Places between 500-5,000 pop.	Under 500 pop. or in country	
Total deaths from all causes	8.197	6,851	14,880	168	7.858	2,525	4,665	10,383	3,604	396	665	12,625	1,880	543	15.048
I.—Specific Febrile or Zymotic Diseases	2,025	1,916	3,910	31	2,598	480	863	3,370	497	29	45	3,312	528	101	3,941
A.—MIASMATIC DISEASES	1,271	1,133	2,389	15	1,522	312	570	2,111	264	13	16	2,056	301	47	2,404
Small-pox	2	6	8		3		5	8				7	1		8
Chicken-pox		1	1		1			1				1			1
Measles	44	39	83		73	6	4	82	1			70	13		83
Scarlet fever	143	175	318		240	41	37	317	1			266	43	9	318
Typhus fever	17	15	32		3	5	24	13	18	1		28	3	1	32
Influenza	1		1		1			1				1			1
Mumps	2	1	3		3			3				3			3
Diphtheria	351	317	667	4	516	83	72	661	9		1	571	89	11	671
Cerebro-spinal fever	331	262	586	7	456	57	80	542	46	3	2	510	71	12	593
Whooping-cough	47	60	107		97	7	3	107				90	15	2	107
Continued fever	28	33	59	2	18	19	24	35	24		2	53	6	2	61
Enteric fever	300	222	520	2	109	93	320	339	163	9	11	452	60	10	522
Other miasmatic diseases	2	2	4		2	1	1	2	2			4			4
B.—DIARRHETIC DISEASES	605	550	1,147	8	942	75	138	1,078	54	10	13	936	179	40	1,155
Cholera infantum	460	423	876	7	779	53	51	883				710	152	21	883
Cholera morbus	21	19	43		5	3	35	12	23	5	3	39	4		43
"Winter cholera"		3	3		1	1	1	1	2			2		1	3
Diarrhea	82	76	157	1	112	13	33	130	18	3	7	128	16	14	158
Dysentery	39	29	68		45	5	18	52	11	2	3	57	7	4	68

C.—MALARIAL DISEASES	49	34	82	1	43	15	22	61	17	3	2	67	13	3	83
Intermittent fever	9	1	9	1	4	3	3	6	3	1	......	8	2	......	10
Remittent fever	32	32	64	......	35	11	18	51	9	2	2	53	8	3	64
Congestive fever	6	1	7	....	4	3	......	4	3	......	......	4	3	......	7
Other malarial diseases	2	......	2	......	......	1	1	......	2	......	......	2	......	......	2
E.—VENEREAL DISEASES	20	16	34	2	20	6	10	30	3	......	3	27	5	4	36
Syphilis	19	15	32	2	20	5	9	29	2	......	3	27	4	3	34
Other venereal diseases	1	1	2	......	......	1	1	1	1	......	......	......	1	1	2
F.—SEPTIC DISEASES	80	183	258	5	71	69	123	90	159	3	11	226	30	7	263
Erysipelas	30	20	49	1	22	11	17	29	13	2	6	43	5	2	50
Pyemia	28	18	46	......	22	6	18	30	13	1	2	42	4	......	46
Septicemia	22	35	54	3	17	22	18	26	28	......	3	49	6	2	57
Puerperal fever	......	110	109	1	10	30	70	5	105	......	......	92	15	3	110
II.—Parasitic Diseases	5	4	9	......	9	......	......	9	......	......	......	8	1	......	9
Thrush	5	4	9	......	9	......	......	9	......	......	......	8	1	......	9
III.—Dietic Diseases	45	23	65	3	4	21	43	20	33	10	5	59	2	7	68
Starvation	......	1	1	......	....	1	......	1	......	......	......	......	1	......	1
Alcoholism	36	21	54	3	2	18	37	14	29	9	5	50	1	6	57
Delirium tremens	9	1	10	......	2	2	6	5	4	1	......	9	......	1	10
IV.—Constitutional Diseases	1,079	1,039	2,070	48	550	170	1,098	980	949	77	112	1,768	234	116	2,118
Rheumatic fever	3	1	4	......	1	1	2	2	2	......	......	4	......	......	4
Rheumatic heart	4	4	8	......	2	1	5	3	5	......	......	7	1	......	8
Rheumatism	20	21	40	1	4	15	22	13	22	1	5	32	3	6	41
Rickets	4	1	5	......	5	......	......	5	......	......	......	5	......	......	5
Cancer	114	167	278	3	9	69	203	26	190	19	46	246	28	7	281
Tabes mesenterica	96	127	219	4	173	13	37	190	18	8	7	185	35	3	223
Tubercular meningitis	38	31	68	1	53	11	5	68	1	......	......	57	11	1	69
Phthisis	752	649	1,363	38	274	328	799	625	677	48	51	1,156	147	98	1,401
Scrofula	16	11	26	1	14	11	2	23	3	......	1	23	3	1	27
Purpura	2	......	2	......	1	......	1	......	2	......	......	2	......	......	2
Anemia	11	14	25	......	11	4	10	14	8	1	2	23	2	......	25
Diabetes mellitus	19	13	32	......	3	17	12	11	21	......	......	28	4	......	32

Table V.—Continued.

Causes of Death.	Sex.		Color.		Nativity.			Social Condition.				Locality.			Totals............
	Male.........	Female......	White.........	Colored......	Illinois......	United States	Foreign.....	Single........	Married.....	Widower....	Widow......	Places over 500 pop.....	Places between 500–5,000 pop...	Under 500 pop. or in country....	
V.—Developmental Diseases	283	295	570	8	379	199	......	350	65	47	116	453	88	37	578
Premature birth	130	107	231	6	237	......	......	237	......	......	......	201	31	5	237
Atelectasis	8	2	10	......	10	......	......	10	......	......	......	9	1	......	10
Cyanosis	13	11	24	......	24	......	......	24	......	......	......	17	7	......	24
Spina bifida	4	2	6	......	6	......	......	6	......	......	......	6	......	......	6
Other congenital defects	20	30	50	......	50	......	......	50	......	......	......	45	3	2	50
Umbilical hemorrhage	3	3	6	......	6	......	......	6	......	......	......	5	1	......	6
Old age	105	140	243	2	46	199	......	17	65	47	116	170	45	30	245
VI.—Local Diseases	3,709	3,038	6,687	60	3,641	1,023	2,083	4,583	1,629	201	334	5,750	776	221	6,747
A.—Nervous System	1,057	801	1,842	16	1,227	245	386	1,465	286	45	65	1,546	231	81	1,858
Inflammation of brain	56	46	101	1	69	9	24	82	17	......	3	80	20	2	102
Apoplexy	175	101	276	......	77	55	144	108	123	21	24	217	38	21	276
Softening of brain	20	15	35	......	......	9	26	6	25	3	1	35	......	......	35
Hydrocephalus—not acute	34	15	48	1	41	8	......	49	......	......	......	44	5	......	49
Hemiplegia	9	7	16	......	2	5	9	3	9	2	2	15	......	1	16
General paralysis of insane	11	10	21	......	......	11	10	5	10	1	5	9	2	10	21
Paraplegia	4	2	6	......	......	3	3	......	6	......	......	4	......	2	6
Chorea	......	4	3	1	2	2	......	4	......	......	......	3	1	......	4
Epilepsy	15	9	24	......	12	4	8	19	5	......	......	17	1	6	24
Convulsions	573	465	1,030	8	914	84	40	1,037	1	......	......	901	116	21	1,038
Trismus nascentium	10	9	19	......	19	......	......	19	......	......	......	15	4	......	19
Tetanus	46	19	65	......	41	4	20	53	9	2	1	55	9	1	65
Diseases of spinal cord	13	7	20	......	2	3	15	9	9	1	1	14	5	1	20
Other diseases, nervous system	91	92	178	5	48	48	87	71	69	15	28	137	30	16	183
B.—Organs of Special Sense	......	3	2	1	2	......	1	2	1	......	......	3	......	......	3
Other diseases, nose, ear and eye	......	3	2	1	2	......	1	2	1	......	......	3	......	......	3

C.—CIRCULATORY SYSTEM	332	305	632	5	88	163	386	215	327	36	59	543	64	30	637
Endocarditis	16	10	26	......	8	6	12	18	8	......	......	22	4	......	26
Pericarditis	15	12	27	......	5	7	15	13	8	5	1	25	......	2	27
Hypertrophy of heart	6	6	12	......	2	4	6	3	8	......	1	11	1	......	12
Angina pectoris	8	11	19	......	1	7	11	3	14	......	2	14	2	3	19
Valve-disease of heart	69	65	132	2	18	38	78	49	69	4	12	118	11	5	134
Syncope	2	......	2	......	1	1	......	2	......	......	......	1	1	......	2
Aneurism	8	2	10	......	1	1	8	5	4	1	......	8	1	1	10
Senile gangrene	2	5	7	......	......	3	4	1	3	......	3	4	2	1	7
Embolism	6	13	19	......	1	4	14	2	11	1	2	12	4	3	19
Phlebitis	4	4	8	......	......	......	8	1	6	1	......	8	......	......	8
Varicose veins	1	......	1	......	......	......	1	......	......	1	......	1	......	......	1
Other diseases, circulatory system	195	177	369	3	51	92	229	118	193	23	38	319	38	15	372
D.—RESPIRATORY SYSTEM	1,336	1,020	2 338	18	1,410	262	654	1,786	404	62	104	2,029	269	58	2,356
Laryngitis	38	32	70	......	57	7	6	66	4	......	....	62	7	1	70
Croup	277	222	498	1	402	52	45	499	......	......	......	407	84	8	499
Emphysema	8	5	13	......	2	1	10	4	5	2	2	11	......	2	13
Asthma	30	17	46	1	4	7	36	12	27	2	6	39	4	4	47
Bronchitis	369	331	694	6	518	45	137	585	69	16	30	639	45	16	700
Pneumonia	506	345	843	8	410	127	314	540	216	34	61	718	141	22	851
Typhoid pneumonia	57	41	97	1	24	12	62	43	50	3	2	85	11	2	98
Pleurisy	20	8	28	......	3	2	23	11	12	4	1	24	2	2	28
Other diseases, respiratory system	31	19	49	1	20	9	21	26	21	1	2	44	5	1	50
E.—DIGESTIVE SYSTEM	750	650	1,388	12	788	224	388	952	311	41	66	1,208	164	28	1,400
Stomatitis	4	4	8	......	6	1	1	8	......	......	......	7	1	......	8
Dentition	16	15	29	2	29	2	......	31	......	......	......	23	7	1	31
Sore throat	9	3	12	......	10	2	......	11	1	......	......	8	4	......	12
Dyspepsia	16	16	32	......	24	4	4	28	3	......	1	26	3	3	32
Hematemesis	3	......	3	......	......	1	2	......	3	......	......	3	......	......	3
Diseases of stomach	60	55	114	1	46	22	47	56	41	8	10	100	14	1	115
Enteritis	223	161	383	1	310	32	42	354	19	4	7	353	30	1	384
Ulceration of intestines	11	9	20	......	4	10	6	14	8	......	1	16	2	2	20
Ileus	13	14	27	......	16	3	8	18	9	......	......	27	......	......	27
Intussusception	15	10	25	......	6	5	14	7	16	......	2	17	8	......	25
Hernia	11	11	21	1	2	2	18	6	10	1	5	17	3	2	22
Fistula	2	3	5	......	......	1	4	2	3	......	......	5	......	......	5
Peritonitis	96	136	228	4	84	60	88	130	83	7	12	191	35	6	232
Ascites	10	10	20	......	4	3	13	5	10	1	4	18	......	2	20
Gall-stones	1	1	2	......	......	1	1	1	1	......	......	2	......	......	2
Jaundice	17	11	28	......	20	4	4	20	5	2	1	27	......	1	28
Cirrhosis	49	19	68	......	......	17	51	1	53	9	5	57	9	2	68
Other diseases of liver	33	28	60	1	8	17	36	16	35	5	5	50	8	3	61
Other diseases, digestive system	164	141	303	2	219	37	49	247	41	4	13	261	40	4	305

Table V.—Continued.

CAUSES OF DEATH.	SEX.		COLOR.		NATIVITY.			SOCIAL CONDITION.				LOCALITY.			Totals
	Male	Female	White	Colored	Illinois	United States	Foreign	Single	Married	Widower	Widow	Places over 5,000 pop	Places between 500-5,000 pop	Under 500 pop. or in country	
F.—LYMPHATIC SYSTEM	11	2	13	......	2	4	7	8	4	......	1	11	1	1	13
Disease of lymphatics	1	......	1	......	....	1	......	1	......	......	......	......	......	1	1
Disease of spleen	10	2	12	......	2	3	7	7	4	......	1	11	1	......	12
G.—GLAND-LIKE ORGANS OF UNCERTAIN USE	3	2	5	......	1	1	3	1	3	......	1	4	......	1	5
Bronchocele	1	2	3	......	1	......	2	1	1	......	1	3	......	......	3
Addison's disease	2	......	2	......	......	1	1	......	2	......	......	1	......	1	2
H.—URINARY SYSTEM	191	109	296	4	73	66	161	124	136	15	25	262	28	10	300
Nephritis	57	36	90	3	40	17	36	60	28	2	3	87	5	1	93
Bright's disease	82	52	133	1	17	31	86	38	72	9	15	115	13	6	134
Uremia	22	14	36	......	10	10	16	17	17	1	1	29	5	2	36
Suppression of urine	4	....	4	......	3	......	1	3	1	......	......	4	......	......	4
Calculus	1	1	2	......	......	1	1	......	1	......	1	1	1	......	2
Disease of bladder and prostate	5	1	6	......	......	1	5	......	4	......	2	5	1	......	6
Other diseases, urinary system	20	5	25	......	3	6	16	6	13	3	3	21	3	1	25
I.—REPRODUCTIVE ORGANS	12	132	141	3	10	50	81	16	118	1	9	121	14	9	144
a. Organs of Generation	12	47	57	2	3	20	36	11	39	1	8	53	4	2	59
Ovarian disease	......	13	13	......	1	3	9	5	7	......	1	13	......	......	13
Disease of uterus and vagina	......	20	20	......	1	5	14	......	17	......	3	18	2	......	20
Disorders of menstruation	......	2	2	......	1	1	......	2	......	......	......	1	1	......	2

Pelvic abscess	3	12	14	1	.....	7	8	1	10	.....	4	14	1	.....	15
Perineal abscess	1	.....	1	.....	.....	1	.....	.....	1	.....	.....	1	.....	.....	1
Diseases of testes, penis, etc	8	.....	7	1	.....	3	5	3	4	1	.....	6	.....	2	8
b. Parturition	.....	85	84	1	7	30	48	5	79	.....	1	68	10	7	85
Abortion	.....	2	2	.....	.....	1	1	.....	2	.....	.....	2	.....	.....	2
Miscarriage	.....	6	6	.....	.....	1	5	.....	6	.....	.....	6	.....	.....	6
Puerperal mania	.....	7	7	.....	.....	3	4	.....	7	.....	.....	6	.....	1	7
Puerperal convulsions	.....	15	14	1	2	7	6	2	13	.....	.....	13	1	1	15
Placenta prævia	.....	7	7	.....	.....	.....	7	.....	6	.....	1	5	1	1	7
Flooding	.....	5	5	.....	2	3	.....	1	4	.....	.....	4	1	.....	5
Phlegmasia dolens	.....	3	3	.....	1	2	.....	.....	3	.....	.....	2	1	.....	3
Other complications of childbirth	.....	40	40	.....	2	13	25	2	38	.....	.....	30	6	4	40
K.—LOCOMOTOR SYSTEM	9	3	12	.....	3	2	7	4	6	.....	2	10	2	.....	12
Caries and necrosis	3	2	5	.....	2	.....	3	3	1	.....	1	5	.....	.....	5
Arthritis	2	.....	2	.....	.....	.....	2	.....	2	.....	.....	1	1	.....	2
Ostitis	1	.....	1	.....	1	.....	.....	1	.....	.....	.....	1	.....	.....	1
Other diseases, locomotor system	3	1	4	.....	.....	2	2	.....	3	.....	1	3	1	.....	4
L.—INTEGUMENTARY SYSTEM	8	11	18	1	7	6	6	10	6	1	2	13	3	3	19
Carbuncle	.....	1	1	.....	.....	.....	1	.....	1	.....	.....	1	.....	.....	1
Phlegmon	.....	2	2	.....	1	1	.....	2	.....	.....	.....	2	.....	.....	2
Lupus	.....	1	1	.....	.....	.....	1	.....	1	.....	.....	1	.....	.....	1
Ulcer	4	3	7	.....	1	3	3	2	2	1	2	2	2	3	7
Eczema	2	2	4	.....	3	1	.....	1	.....	.....	.....	3	1	.....	4
Pemphigus	2	2	3	1	2	1	1	2	2	.....	.....	4	.....	.....	4
VII.—Violence	578	106	674	10	85	228	371	385	281	12	6	563	101	20	684
Railroad accident	133	8	141	.....	14	47	80	72	66	1	2	98	38	5	141
Other accident	326	69	388	7	70	140	185	259	126	7	3	336	48	11	395
Homicide	29	6	33	2	1	17	17	21	14	.....	.....	29	5	1	35
Suicide	87	23	109	1	.....	21	86	33	72	4	1	97	10	3	110
Execution	3	.....	3	.....	.....	.....	3	.....	3	.....	.....	3	.....	.....	3
VIII.—Otherwise Unclassified	473	430	895	8	592	104	207	686	150	20	47	712	150	41	903
Dropsy	30	42	71	1	8	13	51	20	36	3	13	57	10	5	72
Debility	19	11	30	.....	19	1	10	25	4	.....	1	28	1	1	30
Atrophy from inanition	232	203	434	1	401	21	13	421	1	3	4	335	84	16	435
Mortification	6	5	11	.....	2	3	6	5	5	.....	1	10	1	.....	11

Table V.—Continued.

CAUSES OF DEATH.	SEX.		COLOR.		NATIVITY.			SOCIAL CONDITION.				LOCALITY.			Totals ....
	Male	Female	White	Colored	Illinois.......	United States	Foreign......	Single........	Married.	Widower	Widow	Places over 5,000 pop....	Places between 500-5,000 pop ...	Under 500 pop. or in country	
Tumor	4	16	20	......	2	4	14	5	14	......	1	18	2	....	20
Abscess	13	14	27	......	15	4	8	19	8	......	......	23	4	....	27
Hemorrhage	7	6	12	1	1	5	7	3	9	1	......	10	3	....	13
Sun-stroke	9	......	9	......	2	1	6	4	4	1	......	8	1	....	9
Sudden—not stated	1	......	1	......	......	......	1	......	1	......	......	....	1	....	1
Ill-defined	127	117	239	5	115	42	87	145	61	12	26	195	32	17	244
Unknown	25	16	41	......	27	10	4	36	4	......	1	28	11	2	44

TABLE VI.—*Deaths from Specified Causes (classified) reported in Cook County during the Year 1885:* MONTHS.

CAUSES OF DEATH.	MONTHS.												Totals ....
	January	February....	March	April.........	May..........	June	July..........	August	September ..	October	November...	December...	
Total deaths from all causes	1,300	1,123	1,118	1,202	1,315	1,076	1,766	1,538	1,240	1,076	1,145	1,119	15,048
I.—Specific Febrile or Zymotic Diseases	255	135	212	265	323	256	750	569	360	256	283	227	3,941
A.—MIASMATIC DISEASES	212	144	161	198	225	166	216	216	226	189	233	188	2,404
Small-pox	....	2	1	1	....	....	....	....	1	1	1	1	8
Chicken-pox	....	....	....	....	....	....	....	....	1	....	....	....	1
Measles	9	8	3	7	9	8	19	10	1	2	2	5	83
Scarlet fever...............	43	23	22	31	21	26	14	19	23	28	39	29	318
Typhus fever...................	3	2	2	1	2	1	5	3	6	2	3	2	32
Influenza..	....	....	....	....	1	....	....	....	....	....	....	....	1
Mumps	....	....	....	....	....	1	....	....	....	2	....	....	3
Diphtheria	66	40	51	52	51	38	39	46	69	68	85	66	671
Cerebro-spinal fever.	43	47	51	73	89	49	58	44	26	37	42	34	593
Whooping-cough.................................	10	5	8	8	8	7	15	16	6	8	9	7	107
Continued fever	4	1	4	2	5	4	14	8	7	3	5	4	61
Enteric fever	34	16	18	22	39	32	81	70	85	38	47	40	522
Other miasmatic diseases..........................	....	....	1	1	....	....	1	....	1	....	....	....	4
B.—DIARRHETIC DISEASES..........................	10	7	8	26	60	68	475	326	107	39	12	17	1,155
Cholera infantum..................................	2	5	1	17	37	54	391	265	79	22	5	5	883
Cholera morbus	....	....	1	....	....	2	19	14	5	....	....	2	43
"Winter cholera"................................	1	1	....	....	....	....	....	....	....	....	....	1	3
Diarrhea	6	1	5	5	18	8	37	39	18	11	3	7	158
Dysentery..	1	....	1	4	5	4	28	8	5	6	4	2	68

Table VI.—Continued.

CAUSES OF DEATH.	MONTHS.												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
C.—MALARIAL DISEASES	5	6	11	7	8	8	8	6	9	5	7	3	83
Intermittent fever	3	......	3	......	1	......	......	......	......	2	......	1	10
Remittent fever	1	5	6	6	7	8	8	6	9	2	5	1	64
Congestive fever	......	1	2	......	......	......	......	......	......	1	2	1	7
Other malarial diseases	1	......	......	1	......	......	......	......	......	......	......	......	2
E.—VENEREAL DISEASES	3	2	3	7	7	1	......	2	1	2	6	2	36
Syphilis	3	1	3	6	7	1	......	2	1	2	6	2	34
Other venereal diseases	......	1	......	1	......	......	......	......	......	......	......	......	2
F.—SEPTIC DISEASES	25	26	29	27	23	13	21	19	17	21	25	17	263
Erysipelas	3	7	10	4	7	2	5	1	......	5	4	2	50
Pyemia	4	3	3	1	4	3	5	7	4	6	3	3	46
Septicemia	4	3	3	4	4	4	6	6	6	4	8	5	57
Puerperal fever	14	13	13	18	8	4	5	5	7	6	10	7	110
II.—Parasitic Diseases	......	......	......	......	1	......	2	......	1	2	2	1	9
Thrush	......	......	......	......	1	......	2	......	1	2	2	1	9
III.—Dietic Diseases	7	2	4	12	4	12	2	3	7	6	3	6	68
Starvation	......	......	......	......	......	......	......	1	......	......	......	......	1
Alcoholism	6	2	4	9	3	11	......	2	6	6	3	5	57
Delirium tremens	1	......	......	3	1	1	2	......	1	......	......	1	10

IV. Constitutional Diseases.	188	175	198	177	189	159	180	186	160	167	182	157	2,118
Rheumatic fever	....	1	....	....	3	....	....	....	....	....	....	....	4
Rheumatic heart	....	1	1	....	1	....	....	....	1	1	2	1	8
Rheumatism	3	3	8	4	2	2	3	1	2	2	5	6	41
Rickets	....	....	2	1	1	....	....	....	1	....	....	....	5
Cancer	26	19	24	23	24	18	27	28	15	23	26	28	281
Tabes mesenterica	15	19	17	10	18	19	25	32	28	13	15	12	223
Tubercular meningitis	4	5	3	8	1	7	7	8	5	9	6	6	69
Phthisis	131	119	136	125	130	104	114	109	99	110	123	101	1,401
Scrofula	....	4	2	3	2	2	2	5	1	3	2	1	27
Purpura	....	....	....	....	....	1	....	....	1	....	....	....	2
Anemia	5	....	3	3	5	4	....	1	2	2	....	....	25
Diabetes mellitus	4	4	2	....	2	2	2	2	5	4	3	2	32
V. Developmental Diseases.	60	45	63	47	51	43	46	53	45	38	47	40	578
Premature birth	25	10	20	17	17	19	26	26	22	12	24	19	237
Atelectasis	1	....	1	....	2	3	....	....	1	1	1	....	10
Cyanosis	3	4	4	1	3	2	2	....	1	1	3	....	21
Spina bifida	2	....	....	1	....	1	....	....	....	1	1	....	6
Other congenital defects	6	4	9	4	5	3	3	4	1	3	3	5	50
Umbilical hemorrhage	....	1	1	1	2	....	....	....	1	....	....	....	6
Old age	23	26	28	23	22	15	15	23	19	20	15	16	245
VI. Local Diseases.	681	606	552	591	607	465	621	566	536	466	487	569	6,747
A.—NERVOUS SYSTEM	176	150	141	155	173	146	204	171	149	115	133	145	1,858
Inflammation of brain	8	5	6	10	9	9	14	13	6	15	2	5	102
Apoplexy	21	23	16	22	32	19	24	26	21	16	20	33	276
Softening of brain	4	5	4	1	3	1	3	2	4	3	2	3	35
Hydrocephalus, not acute	5	2	3	6	6	5	4	6	5	2	4	1	49
Hemiplegia	2	1	2	3	....	2	....	1	2	3	....	....	16
General paralysis of insane	1	4	1	1	2	1	2	3	2	2	1	1	21
Paraplegia	1	....	1	1	1	....	....	1	....	....	....	1	6
Chorea	....	....	....	1	....	....	1	1	1	....	....	....	4
Epilepsy	4	2	2	1	....	....	1	2	3	2	2	2	24
Convulsions	109	96	91	92	93	75	110	88	73	48	87	76	1,038
Trismus nascentium	1	2	1	....	2	1	3	3	5	1	....	....	19
Tetanus	2	2	....	....	7	7	23	8	6	4	4	2	65
Diseases of spinal cord	1	1	1	....	1	5	2	6	1	....	2	....	20
Other diseases, nervous system	17	7	13	11	17	21	17	11	17	19	9	21	183
B.—ORGANS OF SPECIAL SENSE	2	....	....	....	....	1	....	....	....	....	....	....	3
Other diseases, nose, ear and eye	2	....	....	....	....	1	....	....	....	....	....	....	3

Table VI.—Continued.

CAUSES OF DEATH.	MONTHS.												Totals
	January	February	March	April	May	June	July	August	September	October	November	December	
C.—CIRCULATORY SYSTEM	57	53	69	64	51	49	45	42	43	48	52	64	637
Endocarditis	1	3	5	4	1	2	......	3	3	......	......	4	26
Pericarditis	2	1	5	1	3	4	2	1	1	3	2	2	27
Hypertrophy of heart	1	2	1	1	......	3	......	2	1	......	1	......	12
Angina pectoris	1	2	1	3	1	......	3	3	1	1	2	1	19
Valve-disease of heart	12	11	14	14	11	10	9	8	5	16	10	14	134
Syncope	......	1	......	......	......	......	......	1	......	......	......	......	2
Aneurism	......	1	1	2	......	......	......	2	1	......	2	1	10
Senile gangrene	......	......	3	......	......	......	......	......	1	......	3	......	7
Embolism	1	2	......	4	3	3	2	1	1	......	2	......	19
Phlebitis	......	1	......	1	......	2	......	2	......	1	1	......	8
Varicose veins	......	......	......	1	......	......	......	......	......	......	......	......	1
Other diseases, circulatory system	39	29	39	33	32	25	29	19	29	27	29	42	372
D.—RESPIRATORY SYSTEM	318	276	223	227	201	141	112	115	162	165	175	241	2,356
Laryngitis	14	5	1	6	1	......	5	4	6	6	12	10	70
Croup	62	35	38	46	21	23	12	27	48	59	55	73	499
Emphysema	1	4	2	1	......	1	......	......	2	......	2	......	13
Asthma	4	4	3	2	3	......	8	1	7	3	8	4	47
Bronchitis	105	98	80	62	70	39	36	49	48	44	28	41	700
Pneumonia	115	113	89	96	87	65	40	21	34	42	58	91	851
Typhoid pneumonia	7	10	6	7	10	5	7	8	14	5	9	10	98
Pleurisy	5	6	2	3	2	1	2	......	2	2	1	2	28
Other diseases, respiratory system	5	1	2	4	7	7	2	5	1	4	2	10	50
E.—DIGESTIVE SYSTEM	80	71	76	100	143	91	228	196	153	106	83	73	1,400
Stomatitis	......	......	......	2	......	1	1	2	1	1	......	......	8
Dentition	2	2	3	1	2	1	3	8	3	2	3	1	31
Sore throat	1	2	......	1	3	......	......	1	......	2	1	1	12
Dyspepsia	2	1	3	2	3	4	5	3	5	......	2	2	32

Hematemesis	......	......	......	......	1	......	......	1	......	......	......	1	3
Disease of stomach	9	8	11	5	17	6	13	11	12	9	9	5	115
Enteritis	7	10	18	23	38	30	83	71	53	24	20	7	384
Ulceration of intestines	1	4	1	1	2	......	3	2	1	1	2	2	20
Ileus	1	......	1	3	3	2	6	8	2	......	1	......	27
Intussusception	4	1	2	1	3	4	2	1	1	3	1	2	25
Hernia	2	2	2	1	......	1	2	4	2	4	1	1	22
Fistula	1	......	......	......	......	1	1	......	1	......	1	......	5
Peritonitis	19	15	14	25	26	14	32	19	21	18	9	20	232
Ascites	2	1	2	1	......	......	1	1	4	2	3	3	20
Gallstones	1	......	......	......	......	......	1	......	......	......	......	......	2
Jaundice	3	3	1	4	3	1	3	5	1	1	1	2	28
Cirrhosis	7	4	5	4	11	3	5	4	7	4	6	8	68
Other diseases of liver	7	7	2	5	3	3	3	4	6	9	5	7	61
Other diseases, digestive system	11	11	11	21	28	20	64	51	33	26	18	11	305
F.—LYMPHATIC SYSTEM	1	1	......	1	3	1	......	......	1	2	1	2	13
Disease of lymphatics	1	......	......	......	......	......	......	......	......	......	......	......	1
Disease of spleen	......	1	......	1	3	1	......	......	1	2	1	2	12
G.—GLAND-LIKE ORGANS OF UNCERTAIN USE	1	......	1	......	......	......	......	......	......	1	1	1	5
Bronchocele	1	......	......	......	......	......	......	......	......	1	......	1	3
Addison's disease	......	......	1	......	......	......	......	......	......	......	1	......	2
H.—URINARY SYSTEM	29	38	28	24	24	26	19	20	16	22	23	31	300
Nephritis	12	7	8	8	8	6	5	10	4	8	6	11	93
Bright's disease	10	21	13	10	9	11	12	7	10	5	14	12	134
Uremia	2	5	5	2	3	6	1	......	1	5	......	6	36
Suppression of urine	2	......	......	1	1	......	......	......	......	......	......	......	4
Calculus	......	......	......	1	1	......	......	......	......	......	......	......	2
Disease of the bladder and prostate	1	......	......	......	......	......	......	......	......	1	3	1	6
Other diseases, urinary system	2	5	2	2	2	3	1	3	1	3	......	1	25
I.—REPRODUCTIVE ORGANS	13	13	9	16	11	9	12	18	10	6	15	12	144
a. Organs of Generation	6	4	3	5	4	6	5	8	4	2	6	6	59
Ovarian disease	2	......	1	2	......	3	......	......	2	1	1	1	13
Disease of uterus and vagina	1	1	2	......	......	3	3	3	2	1	2	2	20
Disorders of menstruation	......	......	......	......	......	......	......	1	......	......	......	1	2
Pelvic abscess	2	3	......	......	......	......	2	4	......	......	2	2	15
Perineal abscess	......	......	......	......	1	......	......	......	......	......	......	......	1
Diseases of testes, penis, etc	1	......	......	3	3	......	......	......	......	......	1	......	8

Table VI.—Continued.

CAUSES OF DEATH.	MONTHS.												Totals ....
	January	February....	March	April.........	May..........	June	July..........	August	September ..	October	November...	December...	
b. Parturition	7	9	6	11	7	3	7	10	6	4	9	6	85
Abortion	......	......	......	......	......	......	......	1	......	1	......	......	2
Miscarriage	1	......	......	......	1	......	......	1	1	......	1	1	6
Puerperal mania	1	3	......	1	......	......	1	......	......	......	1	......	7
Puerperal convulsions	1	......	......	6	1	2	2	2	1	......	......	......	15
Placenta prævia	......	1	......	......	1	1	1	1	......	......	1	1	7
Flooding	......	......	......	1	......	......	1	1	......	......	1	1	5
Phlegmasia dolens	1	......	1	......	1	......	......	......	......	......	......	......	3
Other complications of childbirth	3	5	5	3	3	......	2	4	4	3	5	3	40
K.—LOCOMOTOR SYSTEM	4	1	1	2	......	......	1	2	......	1	......	......	12
Caries and necrosis	3	......	1	......	......	......	1	......	......	......	......	......	5
Arthritis	......	......	......	1	......	......	......	......	......	1	......	......	2
Ostitis	......	......	......	1	......	......	......	......	......	......	......	......	1
Other diseases, locomotor system	1	1	......	......	......	......	......	2	......	......	......	......	4
L.—INTEGUMENTARY SYSTEM	......	3	4	2	1	1	......	2	1	1	4	......	19
Carbuncle	......	......	1	......	......	......	......	......	......	......	......	......	1
Phlegmon	......	1	......	......	......	......	......	......	......	......	1	......	2
Lupus	......	......	......	......	......	......	......	......	1	......	......	......	1
Ulcer	......	2	2	......	......	1	......	1	......	......	1	......	7
Eczema	......	......	1	......	......	......	......	1	......	1	1	......	4
Pemphigus	......	......	......	2	1	......	......	......	......	......	1	......	4
VII —Violence	37	39	52	47	48	78	81	57	60	73	59	53	684
Railroad accident	10	12	12	7	13	12	9	13	11	14	12	16	141
Other accident	16	22	24	25	28	48	50	36	38	50	33	25	395
Homicide	4	......	1	7	1	1	9	3	2	1	3	3	35

Suicide	7	5	15	8	6	17	13	5	9	8	8	9	110
Execution	....	....	....	....	....	....	....	....	....	....	3	....	3
VIII.—Otherwise Unclassified	72	71	67	63	92	63	84	104	71	68	82	66	903
Dropsy	5	6	5	6	10	6	2	8	2	9	6	7	72
Debility	2	4	3	1	2	5	3	5	1	1	1	2	30
Atrophy from inanition	32	30	36	28	46	27	44	52	41	28	36	35	435
Mortification	1	2	....	....	2	....	2	1	1	1	1	....	11
Tumor	2	2	3	1	....	3	2	1	....	1	5	....	20
Abscess	1	4	2	4	1	2	1	7	1	2	1	1	27
Hemorrhage	....	3	....	....	2	1	1	....	2	4	....	....	13
Sun-stroke	....	....	....	....	....	3	6	....	....	....	....	....	9
Sudden—not stated	....	....	....	....	....	1	....	....	....	....	....	....	1
Ill-defined	24	16	17	20	23	10	19	28	21	16	30	20	244
Unknown	5	4	1	3	6	5	4	2	2	6	2	1	41

DECEDENTS AT AGES OVER NINETY YEARS.

As a contribution to the statistics of longevity the following data are compiled from the Physicians' Certificates of Death accompanying the returns of county clerks. They embrace the principal facts concerning 36 decedents at ages over 90 years, two of whom were upwards of 100 years old at date of death. The aggregate of the ages of the entire group is 3,417 years, 9 months, 24 days, and the average age of the group is 94 years, 9 months, 18 days. The females outnumber the males in the proportion of 23 to 13, but the average age of the females is 8 months and 23 days less than that of the males: Aggregate ages of 13 males, 1,240 years—average 95 years, 4 months, 18 days; aggregate of 23 females, 2,177 years, 9 months, 23 days—average 94 years, 7 months, 25 days. The oldest male at date of death was 101 years, 7 months, and the oldest female 103 years, both Irish.

Of American birth there are 19—or over one-half of the total number; of Irish, 11; of German, 3; and of English, Polish and Portuguese, 1 each. The average ages of 6 American, male, is 95 years, 3 months, 5 days—oldest, 99 years, 1 month, 11 days; of 13 American, female, is 94 years, 1 month, 26 days—oldest, 99 years (two); of 4 Irish, male, is 97 years, 7 months, 22 days—oldest, 101 years, 7 months; of 7 Irish, female, is 96 years, 6 months, 15 days—oldest, 103 years; of 3 other foreign-born, male, is 92 years, 7 months, 10 days—oldest, 95 years, (German); of 3 other foreign-born, female, is 92 years, 8 months—oldest, 95 years (German).

Decedents at Ages over 90 Years.

AGES.			Names.	Sex.	Birthplace.	DATA OF DEATH.			Certifying Physician.
Yrs.	Mos.	Days				Date.*	Place.*	Cause.	
90	2	16	John L. Flowers	M	Greenville, N. Y.	Sept. 26	Charleston	Chronic bronchitis	L. L. Silverthorn
90	8	27	Elizabeth Carnahan	F	Wilmington, Del	Jan. 15	Griggsville	Old age	L. J. Harvey
90	10	23	Joel W. Thompson	M	Connecticut	Sept. 10	Pecatonica	Senility	C. H. Latham
90	11	28	Harriet Hall	F	New York	Nov. 8	Hamilton	Paralysis of bowels	F. M. Jackson
90	11	28	Cynthia Jeffries	F	N. Carolina	Sept. 19	Oakland	Bronchitis and old age	E. D. Scott
91	......	......	Albert Gieso	M	Germany	Dec. 6	Chicago	Old age	Julius Otto
91	......	......	Agnes Buzala	F	Poland	Jan. 13	"	Senile debility	M. P. Kossakowski
90	10	......	Henry Searfe	M	England	Jan. 15	Cook Co. Infirm'y	Old age	G. A. Hoffman
91	11	11	Avis Rexford	F	Vermont	Jan. 5	Chicago	Erysipelas	C. A. Wilbur
92	......	......	Amelia Salgad	F	Portugal	Mar. 6	Jacksonville	Old age	C. G. Jones
92	......	......	Mary Nolan	F	Ireland	Oct. 6	Chicago	Mitral and aortic stenosis†	Dennis Collins
92	6	8	Parmelia Crane	F	America	Nov. 6	"	Senile gangrene	Milton Jay
92	9	12	Isaac Mead	M	New York	Oct. 16	McHenry	Old age	A. S. Child
93	......	......	Edward Callerton	M	Ireland	July 13	Chicago	Mitral heart disease	J. B. Richardson
94	......	......	Mary C. Paine	F	America	May 14	"	Old age	J. W. Brooks
93	7	......	Eleanor Dennehy	F	Ireland	Mar. 29	"	"	F. Henrotin
94	......	......	Elizabeth Regan	F	"	June 19	"	"	P. Curran
94	......	......	Lucretia Kellogg	F	Windsor, Conn	June 2	Bloomington	"	C. B. Parke
94	2	18	Hulda Atwood	F	Massachusetts	Aug. 31	Harlem‡	"	W. N. Lundy
94	5	15	Joshua Sprague	M	Utica, N. Y.	Nov. 21	Jacksonville	Exhaustion from old age	T. J. Pitner
94	11	......	Sarah R. Sheer	F	Troy N. Y.	Oct. 29	Lake Forest	Pleuritis	A. C. Haven
95	......	......	Emily P. Dow	F	United States	Dec. 8	Chicago	Old age	H. M. Starkey
95	......	......	John Ottenweller	M	Germany	Aug. 24	Peoria alms ho'se	Old age§	John Stout
95	......	......	Caroline Gaede	F	"	Aug. 1	Chicago	General debility	John Degeller
97	......	......	James Detzell	M	Pennsylvania	Jan. 31	Licking Tp.‖	Softening of the brain	C. Barlow
97	......	......	Catherine O Gara	F	Ireland	Dec. 9	Cicero	Paralysis	J. L. Mills
97	7	......	Freeman Wickerson	M	United States	May 28	Chicago	Pneumonia	D. T. Nelson
97	10	21	Lucretia Morehead	F	Maryland	Aug. 21	Monmouth	Old age	W. S. Holliday
98	......	......	Catherine Burke	F	Ireland	Dec. 4	Chicago	"	P. J. Rowan
98	......	......	Michael Quinlan	M	"	May 6	"	General debility	I. N. Lilly
98	......	......	Jane Rogers	F	"	Feb. 25	"	Old age	R. L. Leonard
98	......	......	Michael O'Malley	M	"	Feb. 14	"	"	F. A. Hess
99	......	......	Elizabeth Dodds	F	W. Virginia	Nov. 23	Otto	Congestive chill	W. H. Elliott
99+	......	......	Sarah Ann Gayler	F	Baltimore, Md	Jan. 11	Keithsburg	Old age¶	Samuel Kelly
99	1	11	George Hull	M	United States	Aug. 2	Oak Park	Old age**	J. W. Tope
101	......	......	Daniel Hughes	M	Ireland	Nov. 5	Chicago	Old age	J. W. Mott
103	......	......	Bridget Kiley	F	"	Apr. 10	"	"	T. A. Clark

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* Year, 1885; State, Illinois. †Complication, bronchitis. ‡Winnebago county. §Complication, fracture of neck of femur. ‖Crawford county.
¶Complication, nervous prostration from fracture of femur one week before death. **Complication, carcinoma of stomach.

VITAL STATISTICS OF ILLINOIS—BIRTHS.

TABLE I.—*Births reported for the year 1885*: BY MONTHS, SEX SPECIFIED.

The State and Counties.		The Year..	January....	February..	March	April.......	May.......	June.......	July	August	September	October ..	November	December.
Illinois..........	M......	24,481	2,139	1,950	2,235	1,916	1,971	1,854	1,906	2,167	2233	2047	1983	2080
	F	22,996	1,970	1,907	2,095	1,896	1,898	1,707	1,775	2,006	1942	1922	1881	1997
	Total	47,477	4,109	3,857	4,330	3,812	3,869	3,561	3,681	4,173	4175	3969	3864	4077
Adams	M......	356	33	25	28	35	23	21	16	40	27	32	28	48
	F	343	26	30	20	42	16	25	13	33	30	45	26	37
	Total	699	59	55	48	77	39	46	29	73	57	77	54	85
Alexander.....	M......	4	1	1	......	......	......	1	......	......	....	....	....	1
	F	11	2	......	1	2	1	......	1	......	....	3	....	1
	Total	15	3	1	1	2	1	1	1	......	....	3	....	2
Bond...........	M......	159	18	10	14	17	16	10	7	12	20	15	12	8
	F	140	5	7	8	12	9	14	9	22	23	10	11	13
	Total	299	23	17	22	29	25	24	13	34	43	25	23	21
Boone	M......	64	5	9	7	5	6	5	7	6	6	4	1	3
	F	83	7	6	7	9	5	4	10	4	12	8	8	3
	Total	147	12	15	14	14	11	9	17	10	18	12	9	6
Brown..........	M......	78	7	4	8	7	2	7	7	......	8	4	2	22
	F	65	8	3	5	4	4	3	6	2	7	5	3	15
	Total	143	15	7	13	11	6	10	13	2	15	9	5	37
Bureau.........	M......	187	9	20	21	15	16	9	8	26	18	18	8	19
	F	176	15	13	12	15	14	17	13	18	20	17	7	15
	Total	363	24	33	33	30	30	26	21	44	38	35	15	34
Calhoun	M......	43	7	4	2	4	4	4	3	1	1	3	8	2
	F	41	2	5	9	2	4	1	1	4	4	2	4	3
	Total	84	9	9	11	6	8	5	4	5	5	5	12	5
Carrolll........	M......	89	7	11	8	7	5	3	2	8	11	10	9	8
	F	53	13	4	5	6	......	5	3	6	2	1	3	5
	Total	142	20	15	13	13	5	8	5	14	13	11	12	13
Cass......	M......	81	13	10	7	9	4	9	6	6	5	4	5	3
	F	70	1	5	6	14	9	7	7	2	5	6	6	2
	Total	151	14	15	13	23	13	16	13	8	10	10	11	5

Table I.—Continued.

The State and Counties.		The year...	January ...	February..	March	April......	May.......	June......	July.......	August ...	September	October ...	November.	December..
Champaign ..	M......	176	16	19	15	8	15	9	20	12	12	19	21	10
	F	187	26	21	10	11	18	12	18	17	22	11	8	13
	Total	363	42	40	25	19	33	21	38	29	34	30	29	23
Christian	M.....	200	8	14	22	21	8	22	16	12	25	16	23	13
	F	184	12	12	19	16	17	23	18	12	13	13	15	14
	Total	384	20	26	41	37	25	45	31	24	38	29	38	27
Clark	M......	188	16	18	11	19	17	14	18	17	14	14	16	14
	F	179	11	20	20	14	8	15	14	18	17	18	12	12
	Total	367	27	38	31	33	25	29	32	35	31	32	28	26
Clay	M......	136	15	18	16	5	21	9	6	9	11	5	11	10
	F	122	14	9	13	7	18	4	7	4	15	8	15	8
	Total	258	29	27	29	12	39	13	13	13	26	13	26	18
Clinton	M......	255	24	26	21	26	23	15	21	18	28	17	19	14
	F	222	29	24	21	16	19	8	9	19	16	16	27	18
	Total	477	53	50	42	42	42	23	30	37	44	33	46	32
Coles	M......	259	20	20	28	18	26	24	21	24	21	20	18	19
	F	265	28	25	22	20	22	25	23	22	18	23	20	17
	Total	524	48	45	50	38	48	49	44	46	39	43	38	36
Cook	M......	9,410	802	691	807	657	722	720	794	861	875	836	827	818
	F	8,839	720	650	764	726	722	635	749	752	709	796	747	869
	Total	18,249	1,522	1,341	1,571	1,383	1,444	1,355	1,543	1.613	1584	1632	1574	1687
Crawford	M......	228	13	18	24	15	15	12	19	20	32	25	14	21
	F	198	13	16	22	11	15	18	12	17	22	23	14	15
	Total	426	26	34	46	26	30	30	31	37	54	48	28	36
Cumberland ..	M......	18	{		These months not given.						{ 1	3	6	8
	F	19									1	2	8	8
	Total	37	......	......	......	......	.....	......	.....	......	2	5	14	16
DeKalb	M......	98	9	4	9	7	7	10	13	8	8	7	5	11
	F	97	10	6	10	11	3	7	10	11	8	5	7	9
	Total	195	19	10	19	18	10	17	23	19	16	12	12	20
DeWitt	M......	93	11	8	3	5	5	11	9	11	14	1	7	8
	F	89	10	10	2	6	3	6	5	8	9	6	6	18
	Total	182	21	18	5	11	8	17	14	19	23	7	13	26
Douglas	M......	98	12	16	12	8	8	7	9	8	8	6	4	...
	F	111	13	19	18	14	6	6	6	6	7	12	3	1
	Total	209	25	35	30	22	14	13	15	14	15	18	7	1
DuPage........	M......	120	12	7	15	17	17	10	4	7	8	10	11	2
	F	120	13	11	8	9	12	8	14	6	13	6	12	8
	Total	240	25	18	23	26	29	18	18	13	21	16	23	10

Table I.—Continued.

The State and Counties.		The year..	January...	February..	March	April	May........	June	July	August	September	October...	November.	December.
Edgar	M......	157	15	16	20	17	16	17	4	10	13	13	6	10
	F	165	14	10	25	17	18	12	5	22	9	13	9	11
	Total	322	29	26	45	31	34	29	9	32	22	26	15	21
Edwards	M......	151	16	15	9	13	3	11	12	14	26	11	12	9
	F	128	15	10	10	12	21	9	8	15	6	10	7	5
	Total	279	31	25	19	25	24	20	20	29	32	21	19	14
Effingham	M......	107	9	8	5	13	10	5	8	13	10	12	7	7
	F	105	4	5	8	15	14	8	5	13	3	14	6	10
	Total	212	13	13	13	28	24	13	13	26	13	26	13	17
Fayette	M......	120	11	7	11	15	14	12	5	11	9	9	6	10
	F	108	13	6	10	5	11	13	6	13	6	12	4	9
	Total	228	24	13	21	20	25	25	11	24	15	21	10	19
Ford	M......	187	19	14	24	13	14	12	13	20	14	14	15	15
	F	193	17	16	26	7	14	14	17	22	14	16	13	17
	Total	380	36	30	50	20	28	26	30	42	28	30	28	32
Franklin	M......	85	8	6	12	4	6	9	8	7	9	6	6	4
	F	70	10	12	5	3	6	2	7	3	6	5	6	5
	Total	155	18	18	17	7	12	11	15	10	15	11	12	9
Fulton	M......	158	20	17	15	5	18	7	10	15	15	6	14	16
	F	177	21	19	13	11	27	5	10	17	19	12	8	15
	Total	335	41	36	28	16	45	12	20	32	34	18	22	31
Gallatin	M......	100	7	8	14	7	5	7	10	7	9	11	8	7
	F	86	8	6	9	4	5	8	6	6	13	2	8	11
	Total	186	15	14	23	11	10	15	16	13	22	13	16	18
Greene	M......	78	9	7	5	8	7	7	4	7	11	4	5	4
	F	73	4	7	7	7	2	12	4	4	9	7	7	3
	Total	151	13	14	12	15	9	19	8	11	20	11	12	7
Grundy	M......	78	2	3	3	11	12	12	4	3	12	10	4	2
	F	71	1	5	5	5	11	11	5	2	9	10	....	7
	Total	149	3	8	8	16	23	23	9	5	21	29	4	9
Hamilton	M......	116	10	8	12	8	8	8	8	4	16	15	6	13
	F	144	12	17	10	12	13	4	11	3	15	22	7	18
	Total	260	22	25	22	20	21	12	19	7	31	37	13	31
Hancock	M......	163	12	16	14	17	20	12	6	13	16	6	13	18
	F	144	13	12	14	19	7	14	12	16	22	5	3	7
	Total	307	25	28	28	36	27	26	18	29	38	11	16	25
Hardin	M......	84	8	6	7	5	7	8	4	11	8	6	4	10
	F	74	5	13	7	7	3	9	1	7	9	4	7	2
	Total	158	13	19	14	12	10	17	5	18	17	10	11	12

Table I.—Continued.

The State and Counties.		The year	January	February	March	April	May	June	July	August	September	October	November	December.
Henderson	M	90	9	8	8	6	9	4	8	6	7	11	6	8
	F	74	2	8	9	3	2	7	6	7	6	10	11	3
	Total	161	11	16	17	9	11	11	14	13	13	21	17	11
Henry	M	215	18	14	17	24	20	8	15	22	31	15	13	18
	F	237	21	23	28	20	22	12	24	17	21	12	13	24
	Total	452	39	37	45	44	42	20	39	39	52	27	26	42
Iroquois	M	220	18	12	20	23	23	23	19	14	14	24	17	13
	F	219	14	20	26	23	15	19	16	21	14	16	21	14
	Total	439	32	32	46	46	38	42	35	35	28	40	38	27
Jackson	M	91	8	8	10	7	5	3	7	8	17	5	10	3
	F	76	5	9	7	5	4	3	7	14	4	5	5	8
	Total	167	13	17	17	12	9	6	14	22	21	10	15	11
Jasper	M	176	28	14	11	18	16	6	14	12	15	16	15	11
	F	173	24	28	15	14	10	8	8	12	17	7	17	13
	Total	349	52	42	26	32	26	14	22	24	32	23	32	24
Jefferson	M	84	23	......	6	......	21	1	8	9	7	5	4	....
	F	70	21	......	7	......	14	......	5	7	3	8	5	....
	Total	154	44	......	13	......	35	1	13	16	10	13	9	....
Jersey	M	55	3	7	6	7	3	9	3	4	8	2	3	....
	F	62	7	2	10	8	4	9	4	7	8	1	....	2
	Total	117	10	9	16	15	7	18	7	11	16	3	3	2
JoDaviess	M	40	7	3	7	4	1	7	1	3	....	3	3	1
	F	34	6	3	3	1	2	7	......	3	....	1	3	5
	Total	74	13	6	10	5	3	14	1	6	...	4	6	6
Johnson	M	109	8	13	13	14	7	8	3	6	9	14	5	9
	F	109	8	13	10	14	7	10	5	6	10	14	4	8
	Total	218	16	26	23	28	14	18	8	12	19	28	9	17
Kane	M	323	25	21	27	29	20	36	38	34	22	29	19	23
	F	317	20	17	38	25	27	25	22	35	14	33	34	27
	Total	640	45	38	65	54	47	61	60	69	36	62	53	50
Kankakee	M	98	5	8	11	5	8	12	11	10	9	7	6	6
	F	105	8	11	7	4	14	8	13	8	12	7	4	9
	Total	203	13	19	18	9	22	20	24	18	21	14	10	15
Kendall	M	45	3	4	4	7	6	3	3	3	4	2	2	4
	F	42	.....	2	7	3	4	1	4	6	5	4	3	3
	Total	87	3	6	11	10	10	4	7	9	9	6	5	7
Knox	M	178	16	19	10	20	14	14	12	15	12	11	12	23
	F	197	21	20	16	19	12	12	14	24	14	15	14	16
	Total	375	37	39	26	39	26	26	26	39	26	26	26	39

Table I.—Continued.

The State and Counties.		The year	January	February	March	April	May	June	July	August	September	October	November	December
Lake	M	75	5	10	5	3	7	4	10	8	9	5	2	7
	F	82	4	11	5	8	7	6	9	5	5	7	8	7
	Total	157	9	21	10	11	14	10	19	13	14	12	10	14
LaSalle	M	415	38	37	42	40	31	28	28	32	36	33	35	35
	F	404	39	32	38	27	41	31	20	38	37	28	37	36
	Total	819	77	69	80	67	72	59	48	70	73	61	72	71
Lawrence	M	158	20	19	15	10	11	15	6	10	9	12	19	12
	F	170	13	16	15	15	15	22	8	9	12	12	17	16
	Total	328	33	35	30	25	26	37	14	19	21	24	36	28
Lee	M	45	6	5	1	3	5	5	6	2	3	3	4	2
	F	34	1	4	......	3	3	5	5	2	1	5	4	1
	Total	79	7	9	1	6	8	10	11	4	4	8	8	3
Livingston	M	132	9	7	16	8	12	12	12	13	11	9	11	12
	F	112	5	7	10	7	15	6	13	9	13	8	8	11
	Total	244	14	14	26	15	27	18	25	22	24	17	19	23
Logan	M	185	14	17	15	18	16	10	11	37	19	10	12	6
	F	156	14	7	16	14	13	13	14	24	8	14	8	11
	Total	341	28	24	31	32	29	23	25	61	27	24	20	17
Macon	M	237	15	20	9	24	19	28	6	31	22	20	19	24
	F	214	11	19	14	20	19	21	9	33	16	9	23	20
	Total	451	26	39	23	44	38	49	15	64	38	29	42	44
Macoupin	M	224	21	18	27	20	21	12	14	19	19	21	14	18
	F	221	18	22	24	22	18	21	24	15	17	9	17	14
	Total	445	39	40	51	42	39	33	38	34	36	30	31	32
Madison	M	223	30	23	17	34	2	19	4	25	19	7	20	23
	F	200	24	14	13	27	6	20	1	27	24	8	17	19
	Total	423	54	37	30	61	8	39	5	52	43	15	37	42
Marion	M	200	15	22	17	18	18	8	20	9	20	12	31	10
	F	163	18	11	13	11	9	10	9	19	13	14	28	8
	Total	363	33	33	30	29	27	18	29	28	33	26	59	18
Marshall	M	117	7	9	10	8	9	8	12	12	10	9	14	9
	F	126	16	13	6	11	10	8	10	12	12	8	11	9
	Total	243	23	22	16	19	19	16	22	24	22	17	25	18
Mason	M	80	4	7	7	8	6	4	5	6	6	8	9	10
	F	66	8	6	6	6	8	7	2	3	8	1	5	6
	Total	146	12	13	13	14	14	11	7	9	14	9	14	16
Massac	M	20	1	......	1	2	2	1	2	2	3	2	3	1
	F	16	......	2	......	1	2	......	......	......	3	4	1	3
	Total	36	1	2	1	3	4	1	2	2	6	6	4	4

Table I.—Continued.

The State and Counties.		The year..	January...	February..	March	April......	May........	June.......	July........	August	September.	October ...	November.	December.
McDonough...	M	97	6	11	12	8	4	11	7	8	9	9	8	4
	F	95	9	8	9	6	7	7	10	7	8	9	8	7
	Total	192	15	19	21	14	11	18	17	15	17	18	16	11
McHenry......	M......	45	2	3	6	3	6	5	2	3	6	1	2	6
	F......	57	11	3	1	11	......	5	1	2	6	4	6	7
	Total	102	13	6	7	14	6	10	3	5	12	5	8	13
McLean	M......	368	39	33	36	41	33	23	28	31	39	20	16	29
	F	294	23	32	36	28	23	18	19	22	23	25	22	23
	Total	662	62	65	72	69	56	41	47	53	62	45	38	52
Menard........	M	90	2	13	9	11	5	8	9	6	5	7	6	9
	F	89	6	10	13	9	2	8	10	7	4	5	6	9
	Total	179	8	23	22	20	7	16	19	13	9	12	12	18
Mercer	M......	168	8	6	41	28	36	1	14	13	7	6	7	1
	F	172	20	3	38	19	21	1	20	18	10	10	9	3
	Total	340	28	9	79	47	57	2	34	31	17	16	16	4
Monroe........	M......	212	19	18	25	15	13	10	12	17	20	23	17	23
	F	174	14	11	13	7	18	14	11	11	14	22	19	20
	Total	386	33	29	38	22	31	24	23	28	34	45	36	43
Montgomery'..	M......	291	28	22	26	18	17	13	29	26	26	33	15	38
	F	264	23	23	16	28	26	26	23	22	20	25	14	18
	Total	555	51	45	42	46	43	39	52	48	46	58	29	56
Morgan	M......	230	21	26	17	12	29	14	19	23	13	18	16	22
	F......	231	22	25	22	21	18	15	21	22	17	17	17	17
	Total	464	43	51	39	33	47	29	40	45	30	35	33	39
Moultrie.......	M......	152	14	7	14	17	9	11	13	17	5	12	14	19
	F	142	10	16	12	21	9	15	9	13	7	12	9	9
	Total	294	24	23	26	38	18	26	22	30	12	24	23	28
Ogle	M......	70	6	6	5	3	8	5	10	8	6	8	4	1
	F	64	3	4	5	5	7	12	8	5	4	6	4	1
	Total	134	9	10	10	8	15	17	18	13	10	14	8	2
eoria.........	M......	353	31	23	43	17	36	27	20	31	29	43	32	21
	F	369	23	34	45	22	40	36	13	18	41	22	45	30
	Total	722	54	57	88	39	76	63	33	49	70	65	77	51
Perry	M......	101	11	9	9	9	7	3	7	9	8	6	10	13
	F	93	12	14	8	8	5	6	4	10	6	5	8	7
	Total	194	23	23	17	17	12	9	11	19	14	11	18	20
Piatt...........	M......	89	10	9	9	8	6	5	3	11	9	5	7	7
	F	113	6	11	9	6	6	7	11	15	13	9	11	9
	Total	202	16	20	18	14	12	12	14	26	22	14	18	16

Table I.—Continued.

The State and Counties.		The year..	January...	February..	March.....	April..	May.......	June.......	July.......	August....	September	October ...	November.	December.
Pike	M	98	7	8	6	7	15	6	9	7	10	9	7	7
	F	99	10	7	9	4	10	10	8	9	14	5	6	7
	Total	197	17	15	15	11	25	16	17	16	24	14	13	14
Pope	M......	70	9	6	6	7	6	5	5	6	6	4	5	5
	F	54	4	7	5	5	4	6	4	1	5	5	3	5
	Total	124	13	13	11	12	10	11	9	7	11	9	8	10
Pulaski	M......	2	......	......	......	......	1	......	......	......	....	1	....	....
	F	4	1	......	......	......	1	1	......	......	....	1	....	....
	Total	6	1	......	......	......	2	1	......	......	....	2	....	....
Putnam	M......	32	2	1	3	2	3	3	2	......	3	2	5	6
	F	19	......	5	3	......	1	2	1	......	2	....	2	3
	Total	51	2	6	6	2	4	5	3	......	5	2	7	9
Randolph	M......	178	19	22	13	6	10	10	14	15	9	16	14	30
	F	147	11	15	14	14	8	6	12	11	13	17	13	13
	Total	325	30	37	27	20	18	16	26	26	22	33	27	53
Richland	M......	138	11	19	14	11	11	10	7	14	11	5	13	12
	F	104	9	7	6	11	16	11	11	6	6	5	9	7
	Total	242	20	26	20	22	27	21	18	20	17	10	22	19
Rock Island	M......	284	16	23	25	24	22	23	21	25	30	24	22	29
	F	234	30	19	20	25	25	8	12	17	19	18	24	17
	Total	518	46	42	45	49	47	31	33	42	49	42	46	46
Saline	M......	1	......	.....	......	......	......	......	1	......	....	....	....	....
	F	2	.....	1	......	......	......	......	......	......	....	....	1	....
	Total	3	......	1	......	......	......	......	1	......	....	....	1	....
Sangamon	M	235	22	22	29	12	15	20	25	18	21	13	23	15
	F	200	17	19	24	25	13	11	16	23	14	12	17	9
	Total	435	39	41	53	37	28	31	41	41	35	25	40	24
Schuyler	M......	119	11	3	2	20	4	15	13	8	15	14	6	8
	F	83	8	4	2	6	3	8	7	11	12	8	5	9
	Total	202	19	7	4	26	7	23	20	19	27	22	11	17
Scott	M......	39	3	5	3	......	8	......	7	......	...	....	7	6
	F	28	1	3	2	.....	5	......	6	......	....	....	6	5
	Total	67	4	8	5	......	13	......	13	......	....	....	13	11
Shelby	M......	120	9	3	20	15	12	6	11	5	9	10	6	14
	F	126	6	13	21	19	8	7	14	9	10	9	....	10
	Total	246	15	16	41	31	20	13	25	14	19	19	6	24
Stark	M......	10	......	......	1	......	......	1	1	1	5	1	....	....
	F	13	......	2	1	2	1	1	1	......	1	....	3	1
	Total	23	......	2	2	2	1	2	2	1	6	1	3	1

Table I.—Continued.

The State and Counties.		The year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
St. Clair	M	479	45	43	36	23	26	48	32	39	45	51	45	46
	F	491	44	38	50	25	31	43	26	47	44	46	44	53
	Total	970	89	81	86	48	57	91	58	86	89	97	89	99
Stephenson	M	227	20	19	18	18	16	22	21	17	21	23	15	17
	F	210	23	22	14	19	20	8	20	17	19	13	16	19
	Total	437	43	41	32	37	36	30	41	34	40	36	31	36
Tazewell	M	251	28	21	19	17	22	20	17	23	23	25	2	34
	F	194	20	29	17	9	26	17	6	13	19	14	14	11
	Total	445	48	50	36	26	48	37	23	36	42	39	15	45
Union	M	147	13	12	8	7	13	11	12	22	4	8	20	17
	F	153	13	9	6	12	13	15	14	16	9	18	19	9
	Total	300	26	21	14	19	26	26	38	58	13	26	39	26
Vermilion	M	187	14	22	20	22	17	12	12	11	11	17	15	14
	F	211	28	21	22	12	25	12	16	18	16	10	19	12
	Total	398	42	43	42	34	42	24	28	29	27	27	34	26
Wabash	M	135	13	12	17	7	11	12	6	11	9	12	15	10
	F	131	15	14	7	12	13	7	9	8	15	12	10	9
	Total	266	28	26	24	19	24	19	15	19	24	24	25	19
Warren	M	223	24	14	23	17	13	18	19	21	17	11	23	23
	F	200	13	25	15	16	17	18	12	14	22	10	24	14
	Total	423	37	39	38	33	30	36	31	35	39	21	47	37
Washington	M	296	13	21	35	28	22	39	23	30	26	28	17	14
	F	244	13	21	26	21	16	15	22	23	25	31	21	10
	Total	540	26	42	61	49	38	54	45	53	51	59	38	24
Wayne	M	148	4	9	11	11	14	9	12	20	16	17	16	9
	F	141	5	12	14	12	14	4	17	18	8	12	20	5
	Total	289	9	21	25	23	28	13	29	38	24	29	36	14
White	M	151	10	5	3	12	11	12	14	14	19	15	19	17
	F	132	7	4	6	5	9	13	14	16	12	15	14	17
	Total	283	17	9	9	17	20	25	28	30	31	30	33	34
Whiteside	M	203	33	12	20	9	16	19	15	13	28	10	6	22
	F	232	24	17	32	13	10	15	21	18	26	15	14	27
	Total	435	57	29	52	22	26	34	36	31	54	25	20	49
Will	M	115	12	15	20	10	8	6	12	11	16	11	12	12
	F	121	15	7	14	5	10	6	13	9	15	6	8	16
	Total	269	27	22	31	15	18	12	25	20	31	17	20	28
Williamson	M	86	9	7	14	10	8	4	6	5	3	6	5	9
	F	46	3	4	6	2	6	2	9	3	4	4	3	....
	Total	132	12	11	20	12	14	6	15	8	7	10	8	9

Table I.—Continued.

The State and Counties.		The year..	January..	February..	March	April......	May	June......	July	August	September	October ...	November.	December.
	M......	292	17	20	42	20	28	23	21	20	19	31	24	27
Winnebago....	F	266	14	25	31	22	22	25	18	28	20	22	17	22
	Total	558	31	45	73	42	50	48	39	48	39	53	41	49
	M......	160	18	11	14	10	18	17	12	15	13	5	18	9
Woodford	F	117	11	9	7	7	9	11	12	10	9	15	7	10
	Total	277	29	20	21	17	27	28	24	25	22	20	25	19

TABLE II.—*Births reported for the year 1885:* LOCALITIES SPECIFIED—*"Cities," over 5,000 population; "Towns," over 500, under 5,000; "Country," places less than 500.*

The State and Counties.		The year..	January...	February..	March.....	April.......	May........	June.......	July........	August....	September	October...	November.	December.
Illinois..........	Cities...	20,275	1726	1619	1785	1538	1634	1511	1593	1817	1747	1761	1698	1843
	Towns..	8,025	650	591	748	594	659	633	684	707	667	712	675	705
	Country	19,177	1725	1640	1808	1690	1572	1431	1399	1630	1761	1517	1476	1528
	Total.	47,477	4101	3850	4341	3822	3865	3575	3676	4154	4175	3993	3849	4076
Adams....... .	Cities...	446	30	42	35	44	33	26	20	44	36	66	16	54
	Towns..	73	5	1	5	14	1	5	5	9	8	4	12	4
	Country	180	24	12	8	19	5	15	4	20	13	7	26	27
	Total.	699	59	55	48	77	39	46	29	73	57	77	54	85
Alexander.....	Cities...	14	2	1	1	2	1	1	1	....	...	3	....	2
	Towns..	.....	......	......	......	......	......	......	......	....	....	....	....	...
	Country	1	1	.....	......	......	....	......	....	...	....	....	....	....
	Total.	15	3	1	1	2	1	1	1	....	....	3	....	2
Bond.	Cities...	.....	.....	......	......	......	......	......	....	....	....	...	....	....
	Towns..	60	2	3	2	3	5	6	......	10	11	5	5	8
	Country	239	21	14	20	26	20	18	13	24	32	20	18	13
	Total.	299	23	17	22	29	25	24	13	31	43	25	23	21
Boone	Cities...	.....	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	23	......	1	1	1	1	2	1	4	4	4	1	3
	Country	124	12	14	13	13	10	7	16	6	14	8	8	3
	Total	147	12	15	14	14	11	9	17	10	18	12	9	6
Brown..........	Cities...	.....	......	......	......	......	......	......	......	....	...	....	....	....
	Towns..	23	1	4	6	2	1	1	1	...	1	1	....	5
	Country	120	14	3	7	9	5	9	12	2	14	8	5	32
	Total	143	15	7	13	11	6	10	13	2	15	9	5	37
Bureau	Cities...	......	......	.....	......	.....	......	......	.....	....	....	....	....	....
	Towns..	187	5	22	15	15	19	16	8	24	24	16	6	17
	Country	176	19	11	18	15	11	10	13	20	14	19	9	17
	Total	363	24	33	33	30	30	26	21	44	38	35	15	34
Calhoun	Cities...	.....	......	......	......	......	......	......	......	....	....	...	...	....
	Towns..	.....	......	......	......	......	......	......	......	...	..	....	....	....
	Country	84	5	10	10	10	10	5	5	5	6	6	6	6
	Total.	84	5	10	10	10	10	5	5	5	6	6	6	6

Table II.—Continued.

The State and Counties.		The year...	January ...	February ..	March......	April.	May.	June.	July	August ..	September	October...	November.	December.
Carroll..........	Cities...	......	......	......	......	......	......	....	......	....	...	...	....	....
	Towns..	......	......	...	....	...	......	.....	......	...	..	....	....	....
	Country	142	20	15	13	13	13	5	8	5	14	13	11	12
	Total.	142	20	15	13	13	13	5	8	5	14	13	11	12
Cass..........	Cities...	......	......	....	......	......	......	......	......	....	....	....	....	....
	Towns..	81	6	10	6	8	6	10	10	7	5	6	5	2
	Country	70	8	5	7	15	7	6	3	1	5	4	6	3
	Total.	151	14	15	13	23	13	16	13	8	10	10	11	5
Champaign....	Cities...	......	......	......	......	......	......	......	......	..	...	....	....	....
	Towns..	..	......	......	......	......	....	.....	....	..	...	....	....	....
	Country	363	42	40	25	19	33	21	38	29	34	30	29	23
	Total	363	42	40	25	19	33	21	38	29	34	30	29	23
Christian	Cities..	......	....	......	......	......	......	....	......	....	....	....	....	....
	Towns..	....	.....	......	......	......	......	......	......	..	....	..	....	....
	Country	384	20	26	41	37	25	45	36	19	40	30	36	29
	Total.	384	20	26	41	37	25	45	36	19	40	30	36	29
Clark	Cities...	....	......	......	.....	......	......	......	.....	....	...	....	....	....
	Towns..	54	3	6	4	5	4	4	5	6	4	5	4	4
	Country	313	24	32	27	28	21	25	27	29	27	27	24	22
	Total.	367	27	38	31	33	25	29	32	35	31	32	28	26
Clay	Cities...	......	.....	......	......	......	......	......	......	....	....	....	....	....
	Towns..	....	......	......	......	.....	......	......	......	....	..	....	....	....
	Country	258	29	27	29	12	39	13	13	13	26	13	26	18
	Total.	258	29	27	29	12	39	13	13	13	26	13	26	18
Clinton.........	Cities...	477	53	50	42	42	42	23	33	37	44	33	46	32
	Towns..													
	Country													
	Total.	477	53	50	42	42	42	23	33	37	44	33	46	32
Coles	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	......	......	......	......	......	.....	....	....	....	....	....	....
	Country	524	48	45	50	38	48	49	44	46	39	43	38	36
	Total.	524	48	45	50	38	48	49	44	46	39	43	38	36
Cook....	Cities...	14,877	1280	1131	1267	1128	1184	1094	1232	1332	1306	1310	1269	1344
	Towns..	2,732	194	170	237	206	219	206	250	237	217	264	245	287
	Country	640	48	40	67	49	41	55	61	44	61	58	60	56
	Total.	18,249	1522	1341	1571	1383	1444	1355	1543	1613	1584	1632	1574	1687
Crawford	Cities...	......	......	......	......	......	. ...	......	......	....	...	....	....	...
	Towns..	32	3	4	4	.....	1	2	2	2	7	4	2	1
	Country	394	23	30	42	26	29	28	29	35	47	44	26	35
	Total	426	26	34	46	26	30	30	31	37	54	48	28	36
Cumberland...	Cities...	......	......	......	......	......	......	......	......	....	....	....	...	....
	Towns..	......	......	......	......	......	......	......	......	....	....	....	...	....
	Country	37	......	......	......	......	......	......	......	....	2	5	14	16
	Total.	37	......	......	......	......	......	......	......	....	2	5	14	16

Table II.—Continued.

The State and Counties.		The year...	January...	February...	March......	April......	May......	June......	July......	August....	September	October...	November.	December.
DeKalb.........	Cities...	.....	......	.....	.....	......	.....	......	......	...	...	....	....	....
	Towns..	24	2	3	1	4	3	1	1	...	1	3	2	3
	Country	171	17	7	18	14	7	16	22	19	15	9	10	17
	Total.	195	19	10	19	18	10	17	23	19	16	12	12	20
DeWitt.........	Cities...	.....	.....	......	......	......	......	......	......	..	....	...	...	....
	Towns..	74	9	5	......	6	3	3	4	8	8	1	2	15
	Country	108	12	13	5	5	5	14	10	11	15	6	11	11
	Total.	182	21	18	5	11	8	17	14	19	23	7	13	26
Douglas........	Cities...	......	......	.....	......	.....	......	......	......	....	...	....	....	....
	Towns..	70	6	9	15	1	7	6	8	7	1	7	3	....
	Country	139	19	26	15	21	7	7	7	7	14	11	4	1
	Total.	209	25	35	30	22	14	13	15	14	15	18	7	1
DuPage	Cities ..	......	......	.....	......	......	......	......	......	....	....	....	....	....
	Towns..	. ..	......	.....	......	.....	......	......	......	...	...	...	...	....
	Country	240	25	18	23	26	29	17	18	13	21	16	23	11
	Total.	240	25	18	23	26	29	17	18	13	21	16	23	11
Edgar..........	Cities...	61	4	6	11	12	4	6	4	4	2	3	2	3
	Towns..	7	1	1	1	...	1	1	.....	..	...	....	1	1
	Country	254	24	19	33	22	29	22	5	28	20	23	12	17
	Total.	322	29	26	45	34	34	29	9	32	22	26	15	21
Edwards.	Cities...	......	......	......	.....	.....	......	......	.....	...	...	...	...	....
	Towns..	49	1	2	2	3	6	6	5	6	5	6	5	2
	Country	230	30	23	17	22	18	14	15	23	27	15	14	12
	Total.	279	31	25	19	25	24	20	20	29	32	21	19	14
Effingham.	Cities...	.....	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	....	......	......	....	......	...	......	...	....	....	...	....
	Country	212	13	13	13	28	24	13	13	26	13	26	13	17
	Total	212	13	13	13	28	24	13	13	26	13	26	13	17
Fayette	Cities .	.....	......	.....	.....	....	......	......	......	....	...	...	....	....
	Towns	41	4	5	2	5	4	3	2	4	3	5	1	6
	Country	184	20	8	19	15	21	22	9	20	12	16	9	13
	Total.	228	24	13	21	20	25	25	11	24	15	21	10	19
Ford	Cities...	...	......	......	......	......	......	......	......	....	...	....	....	....
	Towns	319	30	25	41	17	24	22	25	35	24	25	24	27
	Country	61	6	5	9	3	4	4	5	7	4	5	4	5
	Total.	380	36	30	50	20	28	26	30	42	28	30	28	32
Franklin.......	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	......	......	......	......	......	......	......	....	...	....	...	....
	Country	155	18	18	17	7	12	11	15	10	15	11	12	9
	Total.	155	18	18	17	7	12	11	15	10	15	11	12	9
Fulton	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	....	...	.. ...	.....	......	.....	......	...	..	....	...	....
	Country	335	41	36	28	16	45	12	20	32	34	18	22	31
	Total.	335	41	36	28	16	45	12	20	32	34	18	22	31

Table II.—Continued.

The State and Counties.		The year...	January...	February.	March. ...	April.	May........	June.	July........	August....	September.	October....	November.	December.
Gallatin.	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	......	......	......	......	......	......	......	....	....	....	....	....
	Country	186	15	14	23	11	10	15	16	13	22	13	16	18
	Total,	186	15	14	23	11	10	15	16	13	22	13	16	18
Greene	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	83	7	10	9	10	6	15	4	4	8	3	2	5
	Country	68	6	4	3	5	3	4	4	7	12	8	10	2
	Total.	151	13	14	12	15	9	19	8	11	20	11	12	7
Grundy........	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	......	......	......	......	......	......	......	....	....	....	....	....
	Country	149	3	8	8	16	23	23	9	5	21	20	4	9
	Total.	149	3	8	8	16	23	23	9	5	21	20	4	9
Hamilton	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	13	2	......	1	......	3	......	1	....	..	2	1	3
	Country	247	20	25	21	20	18	12	18	7	31	35	12	28
	Total.	260	22	25	22	20	21	12	19	7	31	37	13	31
Hancock	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	99	10	13	11	9	10	11	6	11	10	2	4	2
	Country	208	15	15	17	27	17	15	12	18	28	9	12	23
	Total.	307	25	28	28	36	27	26	18	29	38	11	16	25
Hardin	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	......	......	......	......	......	......	......	....	....	....	....	....
	Country	158	13	19	14	12	10	17	5	18	17	10	11	12
	Total.	158	13	19	14	12	10	17	5	18	17	10	11	12
Henderson....	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	......	......	......	......	......	......	......	....	....	....	....	....
	Country	164	11	16	17	9	11	11	14	13	13	21	17	11
	Total.	164	11	16	17	9	11	11	14	13	13	21	17	11
Henry.	Cities..	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	......	......	......	......	......	......	......	....	....	....	....	....
	Country	452	39	37	45	44	42	20	39	39	52	27	26	42
	Total.	452	39	37	45	44	42	20	39	39	52	27	26	42
Iroquois.......	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	68	8	7	14	6	4	4	6	5	3	5	2	4
	Country	371	24	25	32	40	34	38	29	30	25	35	36	23
	Total.	439	32	32	46	46	38	42	35	35	28	40	38	27
Jackson	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	19	1	2	......	....	1	2	2	3	4	2	1	1
	Country	148	12	15	17	12	8	4	12	19	17	8	14	10
	Total.	167	13	17	17	12	9	6	14	22	21	10	15	11
Jasper	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	91	8	15	1	12	6	1	12	6	6	7	8	9
	Country	258	44	27	25	20	20	13	10	18	26	16	24	15
	Total.	349	52	42	26	32	26	14	22	24	32	23	32	24

Table II.—Continued.

The State and Counties.		The year..	January...	February..	March....	April......	May........	June.......	July........	August. ...	September.	October...	November.	December.
Jefferson......	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns .	154	44	....	13	....	35	1	13	16	10	13	9	....
	Country	....	....	....	....	....	....	....	....	....	....	....	....	....
	Total.	154	44	....	13	....	35	1	13	16	10	13	9	...
Jersey.........	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	117	10	9	16	15	7	18	7	11	16	3	3	2
	Total.	117	10	9	16	15	7	18	7	11	16	3	3	2
JoDaviess.....	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	28	2	1	6	1	2	7	....	4	....	....	1	4
	Country	46	11	5	4	4	1	7	1	2	....	4	5	2
	Total.	74	13	6	10	5	3	14	1	6	....	4	6	6
Johnson.......	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	218	16	26	23	28	14	18	8	12	19	28	9	17
	Total.	218	16	26	23	28	14	18	8	12	19	28	9	17
Kane...........	Cities...	398	35	29	38	38	27	35	42	45	10	40	32	27
	Towns..	242	10	9	27	16	20	26	18	24	26	22	21	23
	Country													
	Total.	640	45	38	65	54	47	61	60	69	36	62	53	50
Kankakee.....	Cities...	72	1	6	6	2	7	8	10	9	6	5	4	8
	Towns .	13	....	....	2	1	1	....	1	1	1	1	3	2
	Country	118	12	13	10	6	14	12	13	8	14	8	3	5
	Total.	203	13	19	18	9	22	20	24	18	21	14	10	15
Kendall	Cities ..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	87	3	6	11	10	10	4	7	9	9	6	5	7
	Total.	87	3	6	11	10	10	4	7	9	9	6	5	7
Knox	Cities...	122	5	24	10	15	2	8	5	10	11	6	7	19
	Towns..	42	15	4	2	3	5	1	4	....	3	1	3	1
	Country	211	17	11	14	21	19	17	17	29	12	19	16	19
	Total.	375	37	39	26	39	26	26	26	39	26	26	26	39
Lake	Cities.	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	157	9	21	10	11	14	10	19	13	14	12	10	14
	Total.	157	9	21	10	11	14	10	19	13	14	12	10	14
LaSalle	Cities...	412	37	40	42	31	34	36	30	32	38	27	36	29
	Towns	133	13	14	16	11	9	8	10	9	12	7	11	13
	Country	274	27	15	22	25	29	15	8	29	23	27	25	29
	Total.	819	77	69	80	67	72	59	48	70	73	61	72	71
Lawrence	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	51	7	3	5	2	6	8	....	3	5	3	6	3
	Country	277	26	32	25	23	20	29	14	16	16	21	30	25
	Total.	328	33	35	30	25	26	37	14	19	21	24	36	28

Table II.—Continued.

The State and Counties.		The year.	January..	February..	March....	April......	May......	June......	July......	August....	September.	October...	November.	December.
Lee	Cities...													
	Towns..	30	3	3		2	3	4	4	2	2	3	3	1
	Country	49	4	6	1	4	5	6	7	2	2	5	5	2
	Total.	79	7	9	1	6	8	10	11	4	4	8	8	3
Livingston	Cities. .													
	Towns..													
	Country	244	14	14	26	15	27	18	25	22	24	17	19	23
	Total.	244	14	14	26	15	27	18	25	22	24	17	19	23
Logan	Cities...													
	Towns..	140	6	11	14	8	9	9	13	30	7	13	10	10
	Country	201	22	13	17	24	20	14	12	31	20	11	10	7
	Total.	341	28	24	31	32	29	23	25	61	27	24	20	17
Macon	Cities...	242	16	13	14	25	22	31	13	37	19	12	15	25
	Towns..	61	3	9	4	4	5	9		7	1	5	8	6
	Country	148	7	17	5	15	11	9	2	20	18	12	19	13
	Total.	451	26	39	23	44	38	49	15	64	38	29	42	44
Macoupin	Cities...													
	Towns..	179	15	13	23	18	11	8	16	12	17	16	16	11
	Country	266	24	27	28	24	25	25	22	22	19	14	15	21
	Total.	445	39	40	51	42	49	33	38	34	36	30	31	32
Madison	Cities...													
	Towns..													
	Country	423	54	37	30	61	8	39	5	52	43	15	37	42
	Total.	423	54	37	30	61	8	39	5	52	43	15	37	42
Marion	Cities...													
	Towns..	138	16	8	10	12	5	10	14	8	11	7	29	8
	Country	225	17	25	20	17	22	8	15	20	22	19	30	10
	Total.	363	33	33	30	29	27	18	29	28	33	26	59	18
Marshall	Cities...													
	Towns..	85	9	7	8	7	7	7	7	5	7	7	8	6
	Country	158	14	15	8	12	12	9	15	19	15	10	17	12
	Total.	243	23	22	16	19	19	16	22	21	22	17	25	18
Mason	Cities ..													
	Towns..													
	Country	146	12	13	13	14	14	11	7	9	14	9	14	16
	Total.	116	12	13	13	14	14	11	7	9	14	9	14	16
Massac	Cities...													
	Towns..	19				1	3	1	1		3	4	4	2
	Country	17	1	2	1	2	1		1	2	3	2		2
	Total.	36	1	2	1	3	4	1	2	2	6	6	4	4
McDonough	Cities...													
	Towns..	90	5	5	14	9	3	7	13	8	7	7	8	4
	Country	102	10	14	7	5	8	11	4	7	10	11	8	7
	Total.	192	15	19	21	14	11	18	17	15	17	18	16	11

Table II.—Continued.

The State and Counties.		The year...	January...	February..	March	April	May.......	June	July	August ..	September	October ..	November.	December
McHenry......	Cities...	......	......	......	......	......	....	......	......	...	...	...	...	...
	Towns..	50	8	4	4	4	3	6	2	3	6	2	3	5
	Country	52	5	2	3	10	3	4	1	2	6	3	5	8
	Total.	102	13	6	7	14	6	10	3	5	12	5	8	13
McLean	Cities...	352	20	46	39	34	35	20	21	26	28	25	24	34
	Towns..	78	13	3	6	6	4	7	7	5	8	8	6	5
	Country	232	29	16	27	29	17	14	19	22	26	12	8	13
	Total.	662	62	65	72	69	56	41	47	53	62	45	38	52
Menard........	Cities...	......	......	......	.....	......	......	.....	......	...	...	...	...	...
	Towns..	102	5	11	12	15	6	12	8	5	5	7	7	9
	Country	77	3	12	10	5	1	4	11	8	4	5	5	9
	Total.	179	8	23	22	20	7	16	19	13	9	12	12	18
Mercer	Cities...	......	......	......	......	......	......	......	......	....	...	...	.....	....
	Towns..	....	.....	......	......	......	......	.....	......	....	....	....	....	....
	Country	340	28	9	79	47	57	2	34	31	17	16	16	4
	Total.	340	28	9	79	47	57	2	34	31	17	16	16	4
Monroe........	Cities...	......	......	......	......	......	......	......	......	--	....	....	....	....
	Towns..	......	.....	......	......	......	......	......	......	....	....	....	....	....
	Country	386	33	29	38	22	31	24	23	28	34	45	36	43
	Total.	386	33	29	38	22	31	24	23	28	34	45	36	43
Montgomery..	Cities...	89	11	12	6	7	3	6	6	12	10	5	4	7
	Towns..	409	32	26	30	31	37	30	45	33	31	45	21	45
	Country	57	8	7	6	8	3	3	1	3	5	8	1	4
	Total.	555	51	45	42	46	43	39	52	48	46	58	29	56
Morgan........	Cities...	216	18	17	19	15	18	28	12	17	24	14	24	13
	Towns..	16	.....	......	3	3	1	2	2	1	....	2	....	2
	Country	232	21	26	29	21	14	17	15	22	21	14	11	18
	Total.	464	39	43	51	39	33	47	29	40	45	30	35	33
Moultrie.......	Cities...	......	....	......	......	.....	......	......	......	....	....	....	...	....
	Towns..	......	.....	.....	....	.....	.....	......	.....	....	....	....	....	....
	Country	294	24	23	26	38	18	26	22	30	12	24	23	28
	Total.	294	24	23	26	38	18	26	22	30	12	24	23	28
Ogle...........	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	42	1	5	3	1	6	3	4	4	5	6	3	1
	Country	92	8	5	7	7	9	14	14	9	5	8	5	1
	Total.	134	9	10	10	8	25	17	18	13	10	14	8	2
Peoria.........	Cities...	576	41	50	66	26	59	50	16	44	48	56	68	49
	Towns..	.....	......	.....	......	......	.....	.....	.....	...	...	....	....	....
	Country	146	10	7	22	13	17	13	17	5	22	9	9	2
	Total.	722	51	57	88	39	76	63	33	49	70	65	77	51
Perry..........	Cities...	....	.....	......	......	......	......	......	......	....	....	....	....	....
	Towns..	11	1	2	....	2	1	.....	.....	2	1	2	....	....
	Country	183	22	21	17	15	11	9	11	17	13	9	18	20
	Total.	194	23	23	17	17	12	9	11	19	14	11	18	20

Table II.—Continued.

The State and Counties.		The year...	January...	February...	March....	April......	May.......	June.......	July......	August....	September	October...	November.	December.
Piatt	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	202	16	20	18	14	12	12	14	26	22	14	18	16
	Total.	202	16	20	18	14	12	12	14	26	22	14	18	16
Pike...........	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	..	....	....	....	....	....	....	....	....	....	....	....	....
	Country	197	17	15	15	11	25	16	17	16	24	14	13	14
	Total.	197	17	15	15	11	25	16	17	16	24	14	13	14
Pope...........	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	124	13	13	11	12	10	11	9	7	11	9	8	10
	Total.	124	13	13	11	12	10	11	9	7	11	9	8	10
Pulaski........	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	6	1	....	....	....	2	1	....	....	....	2	....	....
	Total.	6	1	....	....	....	2	1	....	....	...	2	....	....
Putnam.......	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	51	2	6	6	2	4	5	3	...	5	2	7	9
	Total.	51	2	6	6	2	4	5	3	....	5	2	7	9
Randolph.....	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	...
	Towns.	136	10	18	12	6	2	6	16	14	6	16	13	17
	Country	189	20	19	15	14	16	10	10	12	16	17	14	26
	Total.	325	30	37	27	20	18	16	26	26	22	33	27	43
Richland......	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	89	8	6	3	8	12	11	4	4	5	4	11	13
	Country	153	12	20	17	14	15	10	14	16	12	6	11	6
	Total.	242	20	26	30	22	27	21	18	20	17	10	22	19
Rock Island...	Cities...	395	33	34	31	38	35	19	25	36	40	28	37	39
	Towns..	103	9	7	11	11	10	11	7	6	7	12	7	5
	Country	20	4	1	3	....	2	1	1	...	2	2	2	2
	Total.	518	46	42	45	49	47	31	33	42	49	42	46	46
Saline.........	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	....	....	....	....	....	....	....	....	....	....	....	....	....
	Country	3	....	1	....	....	....	....	1	....	....	....	1	....
	Total.	3	....	1	....	....	....	....	1	....	....	...	1	....
Sangamon.....	Cities...	207	22	19	17	12	13	18	16	22	21	13	17	17
	Towns..	....	....	....	....	....	....	...	....	....	....	....	....	....
	Country	228	17	22	36	25	15	13	25	19	14	12	23	7
	Total.	435	39	41	53	37	28	31	41	41	35	25	40	24
Schuyler	Cities...	....	....	....	....	....	....	....	....	....	....	....	....	....
	Towns..	65	6	2	1	7	2	9	9	7	6	9	3	4
	Country	137	13	5	3	19	5	14	11	12	21	13	8	13
	Total.	202	19	7	4	26	7	23	20	19	27	22	11	17

Table II.—Continued.

The State and Counties.		The year...	January ...	February...	March	April.	May.........	June	July	August	September	October ..	November	December.
Scott	Cities ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Towns..	43	.....	4	3	.....	12	.....	8	.....	.....	.....	10	6
	Country	24	4	4	2	..	1	.....	5	.....	.....	.....	3	5
	Total.	67	4	8	5	.....	13	.....	13	.....	.....	.....	13	11
Shelby.........	Cities...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Towns..	36	2	.....	3	8	5	6	5	1	.....	.....	3	3
	Country	210	13	16	38	26	15	7	20	13	19	19	3	21
	Total.	246	15	16	41	34	20	13	25	14	19	19	6	24
Stark	Cities...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Towns..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Country	23	.....	2	2	2	1	2	2	1	6	1	3	1
	Total	23	.....	2	2	2	1	2	2	1	6	1	3	1
St. Clair	Cities..	417	28	29	30	25	34	29	27	39	39	47	47	52
	Towns..	190	11	19	28	2	8	17	12	16	24	19	13	21
	Country	363	50	33	28	21	15	45	19	31	35	31	29	26
	Total.	970	89	81	86	48	57	91	58	86	89	97	89	99
Stephenson ..	Cities ..	197	21	18	13	15	16	9	24	15	22	18	12	14
	Towns..	14	2	4	.....	.....	1	2	2	1	.....	.....	2	.....
	Country	226	20	19	19	22	19	19	15	18	18	18	17	22
	Total.	437	43	41	32	37	36	30	41	34	40	36	31	36
Tazewell	Cities...	139	20	15	19	1	18	5	9	8	14	8	9	13
	Towns..	49	.....	3	3	2	12	7	1	10	3	5	.....	3
	Country	257	28	32	14	23	18	25	13	18	25	26	6	29
	Total.	445	48	50	36	26	48	37	23	36	42	39	15	45
Union	Cities...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Towns..	76	9	4	5	2	4	5	9	10	5	6	14	3
	Country	224	17	17	9	17	22	21	17	28	8	20	25	23
	Total.	.....	26	21	14	19	26	26	26	38	13	26	39	26
Vermilion	Cities...	241	25	28	19	22	26	19	15	24	11	17	22	13
	Towns..	157	17	15	23	12	16	5	13	5	16	10	12	13
	Country	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Total.	398	42	43	42	31	42	24	28	29	27	27	34	26
Wabash	Cities...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Towns.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Country	266	28	26	24	19	24	19	15	19	24	24	25	19
	Total.	266	28	26	24	19	24	19	15	19	24	24	25	19
Warren........	Cities...	121	11	12	12	8	9	12	7	10	10	11	12	10
	Towns..	40	4	5	3	2	6	5	2	3	.....	4	4	2
	Country	259	22	22	23	23	15	19	22	22	10	31	23	27
	Total.	423	37	39	38	33	30	36	31	35	20	46	39	39
Washington...	Cities...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Towns..	168	10	8	20	15	12	18	10	16	18	19	15	7
	Country	572	16	34	40	34	26	36	35	37	33	40	23	17
	Total.	540	26	42	61	49	38	54	45	53	51	59	38	24

Table II.—Continued.

The State and Counties.		The year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Wayne	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	......	......	......	......	......	......	......	......	....	....	....	....	....
	Country	289	9	21	25	23	28	13	29	38	24	29	36	14
	Total.	289	9	21	25	23	28	13	29	38	24	29	36	14
White	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	74	5	3	1	7	3	6	12	2	6	10	13	6
	Country	209	12	6	8	10	17	19	16	28	25	20	29	28
	Total.	283	17	9	9	17	20	25	28	30	31	30	33	34
Whiteside	Cities...	148	28	5	12	2	6	12	18	6	26	9	7	17
	Towns..	102	11	7	17	6	8	4	3	15	11	5	7	8
	Country	185	18	17	23	14	12	18	15	10	17	11	6	24
	Total.	435	57	29	52	22	26	34	36	31	54	25	20	49
Will	Cities...	118	12	11	19	7	6	2	12	7	8	7	11	16
	Towns..	151	15	11	15	8	12	10	13	13	23	10	9	12
	Country	......	......	......	......	......	......	......	......	....	....	....	....	....
	Total.	269	27	22	34	15	18	12	25	20	31	17	20	28
Williamson	Cities...	......	......	......	......	......	......	......	......	....	...	....	....	....
	Towns..	......	......	......	......	......	......	......	......	....	....	....	....	....
	Country	132	12	11	20	12	14	6	15	8	7	10	8	9
	Total.	132	12	11	20	12	14	6	15	8	7	10	8	9
Winnebago	Cities...	412	23	31	59	29	42	37	28	38	27	34	26	38
	Towns .	146	8	14	14	13	8	11	11	10	12	19	15	11
	Country	......	......	......	......	......	......	......	......	....	....	....	....	....
	Total.	558	31	45	73	42	50	48	39	48	39	53	41	49
Woodford	Cities...	......	......	......	......	......	......	......	......	....	....	....	....	....
	Towns..	58	7	5	6	1	6	7	7	4	3	6	5	1
	Country	219	22	15	15	16	21	21	17	21	19	14	20	18
	Total.	277	29	20	21	17	27	28	24	25	22	20	25	19

TABLE III.—*Births reported for the year 1885:* NATIONALITIES OF PARENTS—"*F*," *Fathers;* "*M*," *Mothers.*

The State and Counties.		All nationalities	American	British American	English	Irish	Scotch	German	Scandinavian	Polish	French	Italians	Miscellaneous	Not given
Illinois	F.	47,477	23,758	549	1,270	2,273	373	11,154	2,820	808	240	257	2,284	1,691
	M.	47,477	25,877	517	1,024	2,062	268	10,031	2,787	750	181	234	2,124	1,622
Adams	F.	699	374	......	5	7	1	264	1	......	4	......	4	39
	M.	699	453	......	3	9	......	194	......	1	1	......	2	36
Alexander	F	15	13	......	......	2	......	......	......	......	......	......	......	......
	M.	15	13	......	......	2	......	......	......	......	......	......	......	......
Bond	F.	299	243	......	6	3	1	29	1	......	10	......	1	5
	M.	299	258	......	4	3	......	19	2	......	9	......	1	3
Boone	F.	147	78	......	13	7	3	16	11	......	......	......	6	13
	M.	147	82	......	6	10	3	14	11	......	......	......	8	13
Brown	F.	143	132	......	2	2	......	7	......	......	......	......	......	......
	M.	143	131	......	2	1	......	6	......	......	......	......	......	......
Bureau	F.	363	241	1	8	18	9	31	40	......	......	......	1	11
	M.	363	256	3	10	17	3	27	37	......	1	......	......	9
Calhoun	F.	84	63	......	1	2	......	12	......	......	1	1	......	4
	M.	84	69	......	1	......	......	10	......	......	1	......	......	3
Carroll	F.	142	94	3	......	4	4	23	6	......	1	......	1	6
	M.	142	109	2	1	3	1	17	5	......	1	......	......	3
Cass	F	151	115	......	......	4	2	12	7	......	......	......	......	11
	M.	151	127	......	......	2	2	11	7	......	......	......	......	2
Champaign	F.	363	249	1	8	14	2	50	5	1	......	......	......	33
	M.	363	248	......	6	10	3	52	4	......	......	......	......	40
Christian	F.	384	288	1	12	16	2	35	3	......	......	......	8	19
	M.	384	312	......	6	13	1	30	......	......	......	......	5	17
Clark	F.	367	336	......	2	3	......	11	......	......	......	......	......	15
	M.	367	352	......	......	......	......	8	......	......	......	......	......	7
Clay	F.	258	242	......	......	......	......	......	13	......	......	......	......	3
	M.	258	245	......	......	......	......	8	......	......	......	......	......	5
Clinton	F	477	173	......	6	4	......	250	4	1	4	......	18	17
	M.	477	231	......	2	3	1	207	2	......	1	......	14	16
Coles	F	524	476	......	6	15	1	18	......	......	1	......	1	6
	M.	524	479	......	1	22	......	20	......	......	......	......	......	2
Cook	F	18,249	3,706	383	547	1,412	154	6,716	1,950	774	81	231	1,829	466
	M.	18,249	4,609	371	450	1,270	124	6,322	1,987	726	75	207	1,714	594
Crawford	F	426	397	......	......	2	2	2	......	......	......	......	1	22
	M.	426	397	......	......	......	......	......	......	......	......	......	......	29
Cumberl'nd	F.	37	37	For	Sep.,	Oct.,	Nov.	and	Dec.,	1885.				
	M.	37	37											
DeKalb	F.	195	128	4	10	12	......	26	15	......	......	......	......	......
	M.	195	130	4	9	11	......	26	15	......	......	......	......	......
DeWitt	F.	182	152	2	5	8	......	13	1	......	1	......	......	......
	M.	182	152	1	5	6	......	14	4	......	......	......	......	......
Douglas	F.	209	198	......	2	1	......	3	2	......	......	......	......	3
	M.	209	198	......	2	1	......	3	2	......	......	......	......	3

Table III.—Continued.

The State and Counties.		All nationalities..	American.	British American.	English....	Irish.	Scotch.	German....	Scandinavian	Polish......	French.....	Italians	Miscellaneous......	Not given..
DuPage	F.	240	118	2	8	2	1	96	4	......	1	......	1	7
	M.	240	120	1	6	5	3	95	3	......	1	......	1	5
Edgar.	F.	322	296	......	8	2	.. ..	8	......	......	......	......	......	8
	M.	322	304	......	5	3	......	3	......	......	......	......	......	7
Edwards ...	F.	279	219	......	21	1	1	25	......	......	......	......	1	11
	M.	279	238	......	18	......	1	15	......	.. ...	......	......	1	6
Effingham..	F.	212	121	1	......	3	......	57	......	......	1	......	......	29
	M.	212	135	......	2	2	.....	42	......	......	1	......	......	30
Fayette	F.	228	190	......	......	......	......	35	......	......	1	......	......	2
	M.	228	196	......	......	......	......	29	......	......	1	......	......	2
Ford	F.	380	220	......	24	13	6	30	......	......	11	......	73	3
	M.	380	227	......	22	15	5	30	.. ..	......	6	......	69	6
Franklin	F.	155	134	......	......	......	......	3	......	......	......	......	......	18
	M.	155	127	......	......	......	......	2	......	......	......	......	......	26
Fulton	F	335	208	......	15	6	......	11	......	......	......	......	2	93
	M.	335	205	......	16	4	......	4	......	......	1	......	1	104
Gallatin	F.	186	169	......	3	1	2	5	......	......	......	......	......	6
	M.	186	178	......	1	1	......	1	......	......	......	......	......	5
Greene	F.	151	134	......	3	3	2	5	......	......	......	......	2	2
	M.	151	145	......	3	1	......	2	......	......	......	......	......	......
Grundy.	F.	149	62	4	21	8	19	16	12	......	1	2	4	......
	M.	149	67	6	16	7	19	12	13	......	1	2	4	2
Hamilton ...	F.	260	239	......	......	1	1	15	......	......	......	......	......	4
	M.	260	248	1	1	1	......	9	......	......	......	......	......	......
Hancock . ..	F.	307	243	1	1	7	......	46	......	......	2	......	2	5
	M.	307	246	3	1	6	......	42	......	......	2	......	4	2
Hardin......	F	158	142	......	......	.....	1	......	......	......	......	......	7	8
	M.	158	142	.. ...	......	.....	1	......	......	......	......	......	7	8
Henderson .	F.	164	122	......	2	8	......	11	7	1	1	......	2	10
	M.	164	124	......	2	10	......	8	11	......	......	......	1	8
Henry.	F.	452	205	......	26	23	4	74	86	......	1	......	21	12
	M.	452	212	......	20	25	6	74	86	......	......	......	21	8
Iroquois	F.	439	271	33	14	15	2	67	2	......	5	.....	25	5
	M.	439	310	33	2	14	......	48	1	......	4	......	19	8
Jackson	F.	167	143	......	5	3	1	5	....	......	2	......	......	8
	M.	167	151	......	1	1	......	5	......	......	......	......	1	8
Jasper	F.	349	275	......	4	2	2	24	......	......	6	......	......	36
	M.	349	278	......	5	4	......	19	......	......	1	......	......	42
Jefferson...	F.	154	118	......	4	4	1	5	......	......	......	......	......	22
	M.	154	128	......	2	3	2	2	......	......	......	......	......	17
Jersey.......	F.	117	90	......	10	4	......	6	......	......	......	......	......	7
	M	117	95	......	5	3	......	7	......	......	......	......	4	3
JoDaviess..	F.	74	55	......	......	4	......	12	......	......	......	......	2	1
	M.	74	56	......	......	1	......	11	......	......	1	......	4	1
Johnson	F.	218	215	......	......	.. ...	......	......	......	......	......	......	......	3
	M.	218	215	......	......	......	......	......	......	......	......	......	......	3
Kane	F.	640	303	9	38	52	9	143	54	1	19	.....	4	8
	M.	640	317	14	25	52	8	141	57	......	17	.....	1	8
Kankakee ..	F.	203	85	21	5	8	......	68	6	......	6	......	......	4
	M.	203	119	13	3	5	3	48	5	......	4	......	......	3

Table III.—Continued.

The State and Counties.	All nationalities	American	British American	English	Irish	Scotch	German	Scandinavian	Polish	French	Italians	Miscellaneous	Not given
Kendall. ....F.	87	54	2	1	......	10	14	......	1	......	......	3	2
M.	87	56	3	2	3	......	6	13	......	......	......	1	3
Knox ...... F	375	261	2	14	9	6	9	65	2	......	......	2	5
M.	375	279	2	2	11	3	4	66	......	1	....	2	5
Lake ....F.	157	80	1	10	17	2	34	1	3	4	......	3	2
M.	157	84	5	11	17	2	29	1	4	......	......	2	2
LaSalle .... F.	819	308	7	52	83	12	265	54	2	17	1	5	13
M.	819	337	8	64	75	13	216	......	2	10	1	2	61
Lawrence ...F.	328	294	......	3	4	......	6	......	.....		4	......	......	17
M.	328	305	......	3	1	......	2	......	......	......	......	......	17
Lee. ....F	79	55	......	2	4	......	15	......	......	......	......	1	2
M.	79	55	......	2	4	......	14	......	....	......	......	......	4
Livingston..F.	244	138	......	14	25	2	46	2	.....	1	......	9	7
M.	244	155	......	12	20	......	34	1	......	1	......	19	2
Logan ....F	341	202	3	6	31	2	90	2	......	......	......	4	1
M.	341	211	1	10	22	2	90	1	......	1	......	3	......
Macon.......F	451	322	.....	4	14	4	34	......	.....	4	......	7	62
M.	451	340	1	4	7	4	23	......	1	1	......	4	66
Macoupin...F.	445	332	2	20	7	1	61	1	2	2	2	1	14
M.	445	356	1	16	9	......	49	......	1	1	2	1	9
Madison ... F.	423	162	1	7	2	7	137	......	1	5	1	30	70
M.	423	165	4	2	6	......	116	......	1	9	1	30	89
Marion ..... F.	363	304	......	7	6	......	29	......	......	1	......	2	14
M.	363	329	......	1	3	......	29	......	......	1	1	......	3
Marshall ....F.	243	163	3	9	8	4	38	8	2	1	......	......	7
M.	243	180	1	7	7	......	32	7	1	.....	......	......	8
Mason ....F.	146	115	......	1	2	1	24	......	......	......	......	......	3
M.	146	120	......	1	2	......	21	......	......	......	......	......	2
Massac......F.	36	29	......	......	.....	1	6	......	.....	......	......	......	......
M	36	28	......	.....	......	......	7	......	......	......	......	......	1
McDonough.F.	192	159	......	17	......	2	4	3	......	1	.....	.....	6
M.	192	168	1	15	......	2	1	1	.....	1	......	1	2
McHenry....F.	102	77	......	4	5	1	12	2	......	......	.....	......	1
M.	102	78	1	1	4	1	15	2	......	......	......	......	......
McLean .... F.	662	402	6	12	26	10	149	......	2	2	1	40	12
M.	662	412	8	10	28	9	143	......	2	1	1	39	9
Menard .....F.	179	135	2	3	7	1	22	......	......	......	......	5	6
M.	179	131	......	5	10	......	22	......	......	......	......	5	6
Mercer ... ..F.	340	252	1	24	9	4	11	32	......	......	......	......	7
M.	340	267	......	22	7	3	7	29	.....	......	......	......	5
Monroe . ... F.	386	270	......	1	4	......	98	......	......	......	......	5	8
M.	386	316	......	1	3	......	60	......	......	......	......	1	5
Montgom'ry.F	555	465	......	15	14	2	54	......	......	......	......	5	......
M.	555	476	......	11	14	1	53	......	......	......	......	......	......
Morgan .....F.	461	310	5	32	22	2	18	2	.....	......	.....	30	13
M.	464	364	1	19	24	1	15	1	......	......	......	28	11
Moultrie ....F.	294	154	......	1	1	......	5	......	......	......	......	.....	133
M.	294	155	......	......	2	......	1	......	......	......	......	......	136
Ogle ....F.	134	90	1	2	4	2	28	6	......	......	......	1	......
M.	134	95	1	4	4	1	21	4	......	......	......	3	1

Table III.—Continued.

The State and Counties.	All nationalities	American..	British American.	English	Irish	Scotch	German ...	Scandinavian......	Polish......	French.....	Italians	Miscellaneous........	Not given..
Peoria ......F.	722	370	7	14	62	4	201	18	4	2	......	4	36
M.	722	414	4	8	56	2	174	18	2	3	......	7	34
Perry ....F.	194	146	......	7	8	7	20	1	......	2	......	3	......
M.	194	156	......	11	5	......	20	......	......	......	......	2	......
Piatt.........F.	202	113	2	2	7	......	6	1	......	......	......	......	71
M.	202	117	......	3	4	......	8	1	......	......	......	......	69
Pike ....F.	197	177	......	3	7	2	......	1	......	......	......	......	7
M.	197	182	......	......	6	2	2	......	......	......	......	......	5
Pope ....F.	124	110	......	1	1	......	12	......	......	......	......	......	......
M.	124	113	......	......	......	......	11	......	......	......	......	......	......
Pulaski. ...F	6	6	......	......	......	......	......	......	......	......	......	......	......
M.	6	6	......	......	......	......	......	......	......	......	......	......	......
Putnam .....F.	51	37	......	......	1	......	7	4	......	1	......	......	1
M.	51	36	1	......	1	......	7	5	......	1	......	......	......
Randolph ...F.	325	217	......	5	3	6	74	......	4	3	......	3	10
M.	325	252	......	2	2	4	56	......	2	3	......	1	3
Richland....F.	242	169	......	1	......	......	18	......	1	......	......	1	52
M.	242	181	......	2	......	......	9	......	......	......	......	......	50
Rock Island.F.	518	205	12	18	14	1	157	92	1	1	......	14	3
M.	518	232	6	18	13	2	139	89	1	3	1	10	4
Saline .... ..F.	3	3	......	......	......	......	......	......	......	......	......	......	......
M.	3	3	......	......	......	......	......	......	......	......	......	......	......
Sangamon ..F.	435	290	2	9	27	1	90	2	......	2	......	3	9
M.	435	293	......	10	32	2	80	3	......	2	......	2	11
Schuyler ....F.	202	195	......	2	1	......	1	......	......	......	......	......	3
M.	202	198	......	......	1	......	......	......	......	......	......	......	3
Scott ....F.	67	61	......	3	2	......	1	......	......	......	......	......	......
M.	67	60	......	5	......	......	2	......	......	......	......	......	......
Shelby ......F.	246	221	......	1	5	2	14	......	2	......	......	......	1
M.	216	220	......	......	2	......	8	......	......	......	......	1	15
Stark ....F.	23	19	......	1	1	......	1	1	......	......	......	......	......
M.	23	21	......	1	......	......	1	......	......	......	......	......	......
St. Clair .....F.	970	604	11	17	12	6	269	3	1	17	5	10	15
M.	970	741	4	19	9	5	176	......	1	7	......	6	2
Stephenson.F.	437	279	4	5	5	1	135	4	......	......	......	2	2
M.	437	303	2	4	5	1	116	1	......	1	......	3	1
Tazewell... F.	445	278	......	7	8	1	137	......	......	......	......	7	7
M.	445	307	......	2	8	1	116	......	4	......	......	4	3
Union ....F.	300	273	......	4	1	1	15	......	......	......	......	2	4
M.	300	286	......	......	2	1	8	......	......	......	......	1	2
Vermilion ...F.	398	301	1	15	7	2	48	9	......	1	......	4	7
M.	398	320	1	10	3	......	41	8	......	1	......	5	6
Wabash .....F.	266	222	......	4	3	......	24	......	......	1	......	2	10
M.	266	236	......	......	2	......	20	......	......	......	......	1	7
Warren .....F	423	355	3	3	13	5	5	25	......	......	......	3	11
M.	423	372	1	4	7	2	3	25	......	......	......	3	6
Washington.F.	540	351	......	......	......	......	188	......	......	......	......	1	......
M.	540	359	......	......	......	......	181	......	......	......	......	......	......
Wayne.......F.	289	262	......	......	1	......	6	......	......	......	......	......	20
M.	289	247	......	......	......	......	6	......	......	......	......	......	36

Table III.—Continued.

The State and Counties.		All nationalities....	American..	British American.	English	Irish	Scotch	German...	Scandinavian.....	Polish.....	French.....	Italians ...	Miscellaneous........	Not given..
White	F.	283	262	......	1	1	......	16	......	1	......	......	......	2
	M.	283	272	......	......	......	......	10	......	......	......	......	......	1
Whiteside .	F.	435	289	2	15	25	1	37	......	1	......	......	50	15
	M.	435	312	4	9	23	1	32	......	1	......	......	46	7
Will	F.	269	116	1	11	23	12	76	10	......	......	12	......	8
	M.	269	122	1	15	26	6	61	15	......	......	16	......	7
Williamson.	F.	132	118	......	1	2	......	5	......	......	1	......	......	5
	M.	132	126	......	1	......	......	4	......	......	......	......	......	1
Winnebago.	F.	558	235	2	13	22	12	30	241	......	1	1	1	......
	M.	558	228	2	10	26	11	25	244	......	1	2	2	7
Woodford ..	F	277	198	......	1	1	......	64	......	......	6	......	5	2
	M.	277	226	1	1	......	......	39	......	......	3	......	7	......

TABLE IV.—*Births reported for the year 1885:* GROUPED AGES OF PARENTS. *"F," Father; "M," Mother.*

The State and Counties.		All ages...	Under 15...	16-20........	21-25	26-30........	31-35........	36-40........	41-45	46-50........	51-55........	Over 55	Not given..
Illinois............	F.	47,477	......	77	7,185	12,770	9,669	7,170	4,125	1,930	813	432	3,306
	M.	47,477	5	4,593	13,392	12,239	7,375	4,783	1,617	222	118	2	3,131
Adams	F.	699	......	......	100	163	136	100	71	37	11	6	75
	M.	699	.....	69	164	176	114	80	12	5	......	......	79
Alexander	F.	15	......	......	3	6	2	4	......	.....	......	......	......
	M.	15	......	4	3	6	1	1	......	......	......	......	......
Bond...............	F.	299	....	......	38	56	72	48	38	21	11	9	6
	M.	299	......	31	101	62	49	43	8	1	4	......	......
Boone	F.	147	......	......	28	42	39	17	7	5	2	3	4
	M.	147	......	14	52	41	23	12	2	1	......	......	2
Brown	F.	143	......	......	24	37	32	21	16	7	2	3	1
	M.	143	......	57	......	33	24	24	1	......	......	......	4
Bureau............	F.	363	......	......	22	92	88	53	38	29	18	6	17
	M.	363	......	28	88	91	81	31	17	2	......	......	25
Calhoun............	F.	84	......	......	7	23	13	15	6	6	......	2	12
	M.	84	......	5	24	22	10	10	2	1	10	......	......
Carroll	F.	142	......	......	13	36	30	20	16	5	6	.....	16
	M.	142	.....	10	45	29	19	12	5	2	......	......	20
Cass................	F.	151	......	......	25	38	20	33	16	8	5	1	5
	M.	151	......	18	40	39	31	15	5	1	......	......	2
Champaign........	F.	363	......	......	55	101	67	56	26	20	2	1	35
	M.	363	......	37	102	85	49	46	10	1	....	......	33
Christian	F.	384	......	......	45	114	63	69	34	25	6	4	24
	M.	384	......	40	115	85	52	50	17	1	......	......	24
Clark...............	F.	367	......	......	80	106	71	54	30	19	5	2	......
	M.	367	......	56	117	95	53	38	8	......	......	......	......
Clay	F.	258	......	......	47	47	40	35	33	20	12	9	15
	M.	258	......	36	65	46	36	34	14	......	......	......	27
Clinton............	F.	477	......	......	39	115	114	71	61	28	12	2	35
	M.	477	......	14	130	124	84	58	22	1	......	......	44
Coles...............	F.	524	......	......	124	111	108	86	44	29	12	9	1
	M.	524	......	95	131	125	79	65	25	2	......	......	2
Cook	F.	18,249	......	73	2,543	5,098	3,622	2,732	1,388	527	165	70	2,031
	M.	18,249	5	1,343	5,147	4,840	2,785	1,786	455	24	......	......	1,864
Crawford	F.	426	......	1	101	88	72	57	43	25	6	......	33
	M.	426	......	......	174	87	......	68	53	19	......	......	25
Cumberland.......	F.	37	......	......	8	7	9	4	3	4	1	1	......
	M.	3.	......	9	10	5	7	4	2	......	......	......	......
DeKalb	F.	195	......	......	43	60	35	23	10	8	2	......	9
	M.	195	......	26	66	50	22	16	2	1	......	......	12
DeWitt.............	F.	182	......	.....	28	46	38	20	21	13	5	3	8
	M.	182	......	22	42	43	25	17	15	2	16	......	......

Table IV.—Continued.

The State and Counties.		All ages	Under 15	16–20	21–25	26–30	31–35	36–40	41–45	46–50	51–55	Over 55	Not given
Douglas	F.	209	......	......	40	59	42	18	14	10	13	10	3
	M.	209	......	26	63	43	34	24	15	4	......	......	......
DuPage	F.	210	......	......	31	66	41	42	32	17	3	1	7
	M.	240	......	19	62	64	34	36	18	1	3	......	3
Edgar	F.	322	......	......	41	100	57	55	34	8	5	10	12
	M.	322	......	31	109	75	47	26	15	......	......	......	19
Edwards	F.	279	......	......	41	74	53	53	27	14	3	3	11
	M.	279	......	34	74	72	47	30	13	1	......	......	8
Effingham	F.	212	.....	......	21	44	48	37	20	15	12	3	12
	M.	212	......	18	49	43	44	31	14	......	......	......	13
Fayette	F.	228	......	......	46	73	40	20	22	13	3	2	9
	M.	228	......	35	70	50	26	17	10	2	......	......	18
Ford	F.	380	......	......	3	54	89	102	62	40	11	6	13
	M.	380	......	46	103	89	75	46	9	......	12	......	......
Franklin	F	155	......	......	26	45	37	22	15	4	4	2	......
	M.	155	......	21	40	40	26	12	6	......	......	......	10
Fulton	F.	335	......	......	56	95	70	45	18	15	4	5	27
	M.	335	......	50	92	84	50	26	9	6	16	......	2
Gallatin	F.	186	......	......	39	44	34	22	19	5	10	11	2
	M.	186	......	40	44	44	25	16	6	3	6	......	2
Greene	F.	151	......	2	27	39	31	26	16	3	2	1	4
	M.	151	......	17	51	34	23	21	4	1	......	......	......
Grundy	F.	149	......	......	17	52	32	19	10	6	3	1	9
	M.	149	......	19	32	44	19	15	5	1	......	......	14
Hamilton	F.	260	......	......	53	74	53	37	25	9	6	......	3
	M.	260	......	47	73	78	31	22	9	......	......	......	......
Hancock	F.	307	......	......	51	88	69	48	26	14	4	3	1
	M.	307	......	27	98	90	45	35	10	2	......	......	......
Hardin	F.	158	......	......	40	41	40	26	6	2	3	......	......
	M.	158	......	69	40	27	15	3	4	......	......	......	......
Henderson	F	164	......	......	14	32	35	26	21	15	10	11	......
	M.	164	......	17	42	40	26	20	12	6	......	......	1
Henry	F.	452	......	......	79	119	77	77	41	16	14	8	21
	M.	452	......	41	153	93	72	50	15	4	......	......	24
Iroquois	F.	439	......	......	59	122	99	61	49	15	11	4	19
	M.	439	......	50	119	109	70	41	21	4	......	......	25
Jackson	F.	167	......	......	32	45	32	19	12	12	2	......	13
	M.	167	......	18	51	44	23	14	2	......	......	......	15
Jasper	F.	349	......	......	88	81	69	46	26	17	17	5	......
	M.	319	......	52	107	74	55	34	20	7	......	......	......
Jefferson	F.	154	......	......	42	42	28	17	6	8	4	2	5
	M.	154	......	24	52	38	20	13	1	1	......	......	5
Jersey	F.	117	......	......	50	45	10	5	4	3	......	......	......
	M.	117	......	20	30	50	5	5	5	2	......	......	......
Jo Daviess	F.	74	......	......	12	17	16	16	8	5	......	......	......
	M.	74	......	3	21	22	11	7	8	2	......	......	......
Johnson	F.	218	......	......	39	63	35	41	16	5	16	......	3
	M.	218	......	25	60	56	36	27	10	1	......	......	3
Kane	F.	640	......	......	98	191	133	92	60	35	10	6	15
	M.	640	......	45	207	192	96	63	19	2	......	......	16

Table IV.—Continued.

The State and Counties.	All ages....	Under 15....	16-20.......	21-25........	26-30	31-35........	36-40........	41-45........	46-50	51-55	Over 55	Not given.
Kankakee .... F.	203	......	......	25	56	42	29	23	4	5	1	18
M.	203	......	21	55	49	39	13	4	1	......	......	21
Kendall ....F.	87	......	......	10	27	17	9	10	5	3	......	6
M.	87	......	4	26	23	12	6	5	......	......	......	11
Knox..............F.	375	......	......	51	124	84	41	28	17	13	7	10
M.	375	......	22	110	99	68	39	13	2	......	......	22
Lake ....F.	157	......	......	24	40	36	25	9	6	4	5	8
M.	157	......	11	45	44	26	22	3	1	......	......	5
LaSalle .... F.	819	......	......	116	231	175	144	68	25	15	6	39
M.	819	......	62	231	223	141	89	22	5	......	......	46
Lawrence..........F.	328	......	......	41	89	75	51	29	23	13	7	......
M.	328	......	35	109	73	49	40	22	......	......	......	......
Lee.............. .F.	79	......	......	11	23	17	14	7	5	......	......	2
M.	79	......	20	23	12	11	2	7	......	......	......	4
Livingston ....F	244	......	......	35	48	56	39	27	13	6	3	17
M.	244	......	20	74	46	46	31	10	......	......	......	17
Logan ....F.	341	......	......	50	95	78	59	29	20	9	1	......
M.	341	......	41	101	93	54	42	10	......	......	......	......
Macon..............F.	451	......	......	70	144	96	73	29	20	4	4	71
M.	451	......	59	136	129	69	30	14	1	......	......	13
Macoupin..........F.	445	......	......	75	128	90	62	42	19	11	2	16
M.	445	......	56	122	114	69	48	15	2	......	......	19
Madison............F.	423	......	1	33	106	104	64	48	22	7	4	34
M.	423	......	32	94	126	77	45	15	4	......	......	30
Marion.......... ..F.	363	......	......	73	101	85	54	31	14	4	1	......
M.	363	......	57	108	91	62	33	10	2	......	......	......
Marshall...........F.	243	......	......	28	75	52	34	18	16	9	2	9
M.	243	......	22	60	64	43	32	10	4	......	......	8
Mason..............F.	146	......	......	23	36	28	24	15	8	1	......	11
M.	146	......	24	43	31	24	12	2	......	......	......	10
Massac.............F.	36	......	......	4	8	5	7	3	1	3	1	4
M.	36	......	5	6	11	6	3	2	......	......	......	3
McDonough........F.	192	......	......	33	58	35	22	20	2	4	1	17
M.	192	......	27	50	51	33	19	5	1	......	......	6
McHenry.. ....F.	102	......	......	17	38	26	10	5	1	2	1	2
M.	102	......	12	35	32	9	10	2	......	......	2	......
McLean............F.	662	......	......	89	171	134	88	76	31	15	5	53
M.	662	.....	73	175	169	98	56	26	12	......	......	53
Menard ....F.	179	......	......	28	51	33	28	16	6	......	3	14
M.	179	......	21	55	41	24	22	5	......	......	......	11
Mercer..............F.	340	......	......	31	97	65	50	46	17	3	3	28
M.	340	......	30	63	105	50	42	19	......	......	......	31
Monroe ....F	386	......	......	60	104	78	59	50	14	7	......	14
M.	386	......	31	124	87	77	43	13	......	4	......	7
Montgomery ......F.	555	......	......	42	130	143	95	79	33	17	16	......
M.	555	......	104	184	137	75	37	18	......	......	......	......
Morgan ....F.	464	......	......	252	81	59	23	5	5	6	2	31
M.	464	......	52	127	125	67	57	10	1	......	......	25
Moultrie............F	294	......	......	42	78	68	46	22	11	7	2	18
M.	294	......	33	79	68	50	35	9	......	......	......	20

Table IV.--Continued.

The State and Counties.	All ages	Under 15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	Over 55	Not given
Ogle F.	134	......	......	22	31	37	26	15	3	......	......	......
M.	134	......	13	45	32	28	13	3	......	......	......	......
Peoria F.	722	......	......	100	195	161	105	55	24	10	7	65
M.	722	......	57	187	183	145	56	23	3	......	......	68
Perry F.	194	......	......	31	52	36	36	14	13	2	1	9
M.	194	......	23	57	49	27	24	6	1	......	......	7
Piatt F.	202	......	......	37	53	43	31	21	12	2	1	2
M.	202	......	22	69	44	37	17	9	2	......	......	2
Pike F	197	......	......	34	52	47	34	19	9	2	......	......
M.	197	......	32	61	46	23	18	12	5	......	......	......
Pope F.	124	......	......	18	27	35	18	8	6	4	5	3
M.	121	......	15	40	25	23	14	6	......	......	......	1
Pulaski F	6	......	......	2	2	......	......	......	......	......	......	2
M.	6	......	2	2	......	......	......	......	......	......	......	2
Putnam F	51	......	......	6	9	12	13	4	3	1	1	2
M.	51	.....	5	8	14	6	9	3	......	......	......	6
Randolph F.	325	......	......	43	84	60	51	30	17	6	6	28
M.	325	......	23	92	87	48	37	12	4	......	....	22
Richland F	242	......	.....	43	61	42	36	17	16	7	1	19
M.	242	......	28	68	62	35	26	9	......	......	......	14
Rock Island F.	518	......	......	64	154	133	83	43	10	3	1	27
M.	518	......	39	142	151	99	38	18	4	......	......	27
Saline F.	3	......	......	......	......	......	......	......	......	......	......	3
M.	3	......	......	......	......	......	......	......	......	......	......	3
Sangamon F.	435	......	......	48	93	93	61	44	26	14	3	53
M.	435	......	42	118	90	66	45	16	1	......	......	57
Schuyler F.	202	......	......	47	52	35	19	14	5	4	......	26
M.	202	......	25	57	56	18	15	10	1	......	......	20
Scott F	67	......	.....	11	17	18	9	6	4	......	2	......
M.	67	......	7	22	16	8	11	2	1	......	......	......
Shelby F.	246	......	......	34	68	56	42	17	8	8	2	11
M.	246	......	39	78	65	21	28	11	......	......	......	4
Stark F.	23	......	......	2	11	2	2	3	2	1	......	......
M.	23	......	1	8	7	5	......	1	......	......	......	1
St. Clair F.	970	......	......	140	251	199	167	107	48	12	33	13
M.	970	......	81	251	256	167	99	40	3	27	......	16
Stephenson F.	437	......	......	52	147	111	68	35	18	3	1	2
M.	437	......	40	145	128	65	41	14	3	......	......	1
Tazewell F	445	......	......	71	114	101	69	47	15	10	15	3
M.	445	......	37	131	128	69	43	17	3	14	......	3
Union F.	300	......	......	98	81	54	32	18	5	2	2	8
M.	300	......	41	81	83	45	21	10	......	2	......	17
Vermilion F.	398	......	......	78	104	76	61	31	17	6	2	20
M.	398	......	76	102	88	58	30	16	4	......	......	24
Wabash F.	266	......	......	47	72	44	45	25	11	3	2	17
M.	266	......	26	74	60	45	26	12	.....	......	......	23
Warren F.	423	......	......	74	105	84	61	50	18	4	5	19
M.	423	......	51	119	148	52	24	16	1	.....	......	12
Washington F.	540	......	......	48	86	89	102	80	67	46	20	2
M.	540	......	69	89	104	111	82	66	24	4	......	......

Table IV.—Continued.

The State and Counties.	All ages	Under 15	15-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	Over 55	Not given
Wayne F.	289	......	.....	47	55	63	36	28	19	9	9	23
M.	289	......	46	74	53	53	30	11	2	......	......	20
White F.	283	......	......	36	79	54	47	31	17	9	3	7
M.	283	.....	32	80	77	41	34	7	......	......	......	12
Whiteside F	435	......	......	80	132	99	57	29	26	6	5	1
M.	435	......	45	130	122	80	37	20	1	......	......	......
Will F.	269	......	......	40	76	54	46	23	5	1	......	24
M.	269	......	31	72	71	44	20	5	......	......	......	26
Williamson F.	132	......	......	27	32	17	13	21	5	2	......	15
M.	132	......	15	39	22	21	16	4	3	......	......	12
Winnebago F.	558	.....	......	81	167	136	84	43	16	8	1	22
M.	558	......	38	130	182	108	55	20	3	......	......	22
Woodford F.	277	.....	......	40	78	60	55	22	11	7	2	2
M.	277	......	19	98	68	49	22	12	3	......	......	6

TABLE V.—*Births Reported for the Year 1885:* NUMBER OF CHILD OF MOTHER.

The State and Counties.	All numbers......	1.	2	3.	4.	5	6.	7	8.	9.	10.	Eleven and more......	Not given.
Illinois........	47,477	11,151	9,347	7,031	5,141	4,033	2,980	2,158	1,606	1,048	980	883	1,116
Adams..	699	156	144	80	77	74	28	39	33	13	25	......	30
Alexander. ...	15	3	2	2	4	2	1	1	......	......	......	......	......
Bond...........	299	67	54	48	28	28	16	16	11	17	6	8	......
Boone..........	147	45	40	31	11	6	3	5	2	3	......	......	1
Brown.	143	35	24	27	12	14	11	6	6	4	......	2	2
Bureau	363	84	65	61	33	29	23	16	14	11	10	......	17
Calhoun	81	21	13	15	10	2	9	3	3	2	1	2	......
Carroll.........	142	40	28	18	12	5	7	8	6	......	2	16	......
Cass......	151	36	21	26	18	15	11	6	10	2	4	2	......
Champaign...	363	94	89	49	36	35	23	11	12	7	2	5	......
Christian	384	76	66	52	42	32	30	14	15	12	9	4	32
Clark..........	367	93	74	64	43	25	19	18	16	4	5	6	......
Clay............	258	46	36	34	37	31	26	12	10	6	6	14	......
Clinton	477	82	85	61	50	36	38	31	21	19	8	10	36
Coles...........	521	142	83	83	64	50	41	20	22	8	6	2	......
Cook.	18,249	4,441	3,710	2,636	1,925	1,422	1,135	836	593	378	256	312	602
Crawford	426	100	70	59	42	52	36	19	14	13	4	8	9
Cumberland...	37	5	5	7	4	6	3	4	1	2	......	......	......
DeKalb.........	195	51	46	28	18	14	10	6	4	3	2	10	......
DeWitt.........	182	42	38	30	17	17	11	9	8	1	4	5	......
Douglas........	209	47	41	32	25	17	13	6	10	10	4	4	......
DuPage	240	63	43	35	29	13	14	17	13	6	3	4	......
Edgar.	322	64	79	51	30	26	20	18	9	6	8	4	4
Edwards........	279	50	59	42	35	27	31	14	6	3	5	......	7
Effingham......	212	45	34	29	23	23	18	10	11	6	5	8	......
Fayette	228	62	45	34	18	14	14	12	5	7	6	11	......
Ford............	380	90	66	52	56	40	18	17	15	10	4	12	......
Franklin.... ..	155	26	24	23	26	14	13	9	10	3	3	4	......
Fulton	335	82	76	51	39	26	14	16	7	7	12	5	......
Gallatin........	186	47	27	29	20	18	13	11	10	2	1	8	......
Greene.........	151	30	25	21	17	12	10	4	10	4	......	6	12
Grundy.........	149	31	33	24	13	11	13	6	2	7	7	2	......
Hamilton	260	53	51	33	31	36	19	14	8	4	4	7	......
Hancock	307	76	68	48	38	24	18	8	10	7	4	6	......
Hardin.	158	23	25	23	17	20	20	9	6	7	4	4	......
Henderson	164	37	37	26	14	10	14	9	10	2	3	2	......
Henry	452	130	89	72	51	29	25	11	11	12	5	16	......
Iroquois	439	94	95	61	48	37	26	21	11	11	9	13	13
Jackson........	167	37	26	24	14	17	10	9	6	3	2	4	15
Jasper.	349	79	61	46	45	35	21	18	10	11	11	9	......
Jefferson	154	41	35	19	11	12	13	7	3	5	5	3	......
Jersey	117	35	25	20	10	5	5	4	3	3	4	3	......
JoDaviess	79	22	17	12	5	11	8	1	2	1	......	......	......
Johnson	218	37	34	30	27	34	15	13	7	5	......	......	29
Kane.	640	178	147	96	47	50	39	13	21	13	9	19	8
Kankakee	203	47	47	32	13	17	16	10	4	6	2	9	......
Kendall	87	29	18	9	14	4	2	5	1	......	......	2	3
Knox...........	375	88	102	53	40	24	22	12	12	8	5	......	9

Table V.—Continued.

The State and Counties.	All numbers......	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	Eleven and more.....	Not given.
Lake...........	157	44	25	19	22	14	8	6	1	3	4	5	6
LaSalle........	819	185	179	121	77	78	55	42	27	17	13	......	25
Lawrence	328	53	66	77	45	25	20	14	10	6	6	6	......
Lee.............	79	18	15	14	11	9	3	3	3	1	1	1	......
Livingston	244	54	46	33	27	22	11	15	16	1	3	16	......
Logan	341	77	58	65	45	31	19	19	12	8	4	3	......
Macon	451	117	100	72	49	28	26	16	17	5	6	15	......
Macoupin....	445	97	92	61	52	45	17	26	11	14	13	7	7
Madison.	423	87	59	58	56	44	33	23	14	15	8	10	16
Marion.	363	95	64	63	40	37	25	13	13	4	5	4	......
Marshall.......	243	51	47	41	22	20	12	14	19	6	5	3	......
Mason..........	146	37	17	23	16	16	6	8	4	5	......	......	14
Massac.........	36	7	6	7	3	5	3	1	......	......	2	......	2
McDonough. ..	192	41	39	28	19	21	18	9	6	3	1	1	3
McHenry	162	32	35	13	8	6	3	4	......	......	......	1	......
McLean........	662	160	122	92	76	48	40	28	23	19	23	......	31
Menard	179	40	31	33	27	14	11	2	7	2	1	4	7
Mercer.........	340	70	68	39	48	38	29	14	9	10	3	5	7
Monroe	386	75	60	49	49	32	43	28	17	15	4	11	3
Montgomery. .	555	135	125	72	48	37	42	29	26	15	19	7	......
Morgan..... ..	464	133	86	66	46	44	21	22	14	5	8	10	6
Moultrie.......	294	69	56	46	29	31	21	18	7	9	2	3	3
Ogle............	134	37	23	22	24	6	5	7	3	4	1	2	......
Peoria.	722	187	135	92	70	71	60	29	18	7	13	14	26
Perry	194	35	35	28	28	13	17	8	5	9	3	6	7
Piatt.	202	47	48	33	25	22	10	7	2	3	2	3	.....
Pike......	197	52	44	21	24	19	13	7	9	3	3	2	......
Pope..........	124	20	31	16	10	16	10	4	5	2	5	5	......
Pulaski	6	2	3	1	......	......	......	......	.....	......	......	......	......
Putnam	51	10	4	9	4	12	2	4	1	1	......	2	2
Randolph	325	63	52	54	36	33	18	18	21	9	4	8	9
Richland	242	58	36	42	23	19	17	14	10	12	1	2	8
Rock Island. .	518	98	107	89	79	44	39	20	18	6	9	9	......
Saline....	3	1	......	1	......	1	......	.....	......	......	......	......	.....
Sangamon.....	435	96	81	57	50	50	34	20	16	13	4	14	......
Schuyler	202	34	42	44	21	9	9	6	11	3	3	2	18
Scott.	67	15	11	8	8	7	7	7	......	2	1	1	......
Shelby.	246	59	54	43	28	21	13	6	7	5	2	5	......
Stark	23	5	9	2	......	5	......	......	......	......	1	1	......
St. Clair........	970	182	160	147	104	93	82	46	51	32	35	38	......
Stephenson ...	437	128	85	60	45	35	23	23	15	6	9	8	......
Tazewell	445	90	86	76	47	48	22	25	13	11	9	18	......
Union	300	51	64	64	39	32	10	8	6	3	4	3	16
Vermilion.	398	100	85	53	40	41	21	21	7	12	5	13	......
Wabash.	266	57	56	38	42	20	17	10	5	5	8	......	8
Warren	423	115	71	74	44	36	25	24	9	12	5	8	......
Washington. ..	540	64	80	78	61	64	56	47	38	26	15	11	......
Wayne.	289	58	43	35	29	20	28	23	12	9	3	2	27
White	283	45	40	49	36	28	26	21	14	6	7	2	9
Whiteside. ...	435	125	87	67	41	30	20	21	14	5	6	3	16
Will	269	77	48	31	22	25	10	16	14	7	5	.....	11
Williamson....	132	28	18	21	21	8	5	6	9	6	1	2	7
Winnebago....	558	155	134	97	58	37	32	18	13	5	3	6	......
Woodford.	277	66	50	41	25	23	14	21	9	11	5	10	2

MARRIAGES IN ILLINOIS, 1881-1885.

The State and Counties.	1881.	1882.	1883.	1884.	1885.
Illinois	32,049	34,072	34,805	33,758	33,566
Adams	554	541	519	578	590
Alexander	209	291	165	197	240
Bond	152	158	163	131	139
Boone	88	87	84	85	76
Brown	139	119	129	122	136
Bureau	298	311	270	280	279
Calhoun	59	59	63	67	61
Carroll	265	146	175	150	155
Cass	155	167	136	130	128
Champaign	335	373	358	334	353
Christian	254	313	219	243	212
Clark	253	202	241	247	211
Clay	192	186	178	181	154
Clinton	169	145	154	159	131
Coles	307	238	286	244	279
Cook	7,897	9,605	10,055	10,182	10,400
Crawford	189	168	176	162	175
Cumberland	161	146	148	150	147
DeKalb	232	264	299	217	243
DeWitt	177	177	167	158	164
Douglas	159	174	152	167	119
DuPage	162	175	163	149	165
Edgar	263	211	233	245	241
Edwards	84	105	87	93	94
Effingham	224	196	213	165	169
Fayette	283	236	282	242	213
Ford	156	169	154	161	166
Franklin	182	206	168	175	186
Fulton	363	353	369	356	335
Gallatin	206	231	202	182	179
Greene	223	217	234	229	192
Grundy	136	163	161	155	168
Hamilton	181	172	198	171	186
Hancock	321	322	282	238	334
Hardin	120	115	123	131	125
Henderson	70	69	90	66	71
Henry	311	334	319	318	296
Iroquois	288	280	290	281	229
Jackson	262	265	216	272	235
Jasper	191	169	186	182	154
Jefferson	222	191	217	221	260
Jersey	149	163	145	125	177
JoDaviess	159	118	175	124	160
Johnson	143	169	175	126	151
Kane	408	420	520	560	547
Kankakee	207	282	302	306	250
Kendall	110	88	133	108	91
Knox	376	402	372	370	352
Lake	140	157	58	83	142
LaSalle	679	713	728	676	612

Marriages in Illinois, 1881–1885—Continued.

Counties.	1881.	1882.	1883.	1884.	1885.
Lawrence	176	163	158	156	125
Lee	250	241	264	230	206
Livingston	284	308	326	297	356
Logan	222	241	225	249	200
Macon	358	384	379	357	371
Macoupin	285	359	355	320	290
Madison	450	497	469	454	385
Marion	283	242	284	238	232
Marshall	141	126	132	125	129
Mason	129	156	167	145	165
Massac	188	182	147	155	195
McDonough	306	289	277	281	266
McHenry	170	177	211	208	224
McLean	557	531	596	564	520
Menard	125	150	131	108	111
Mercer	142	147	149	163	121
Monroe	150	122	119	113	119
Montgomery	353	247	275	279	214
Morgan	301	306	302	286	271
Moultrie	138	135	152	122	120
Ogle	206	229	216	193	203
Peoria	644	721	655	634	633
Perry	169	163	195	158	147
Piatt	151	141	137	133	126
Pike	268	277	327	279	260
Pope	125	144	146	136	132
Pulaski	114	99	115	103	142
Putnam	47	45	54	43	43
Randolph	246	213	234	187	215
Richland	175	187	180	165	133
Rock Island	407	457	427	378	373
Saline	171	167	194	163	218
Sangamon	565	543	560	573	525
Schuyler	142	166	166	158	140
Scott	93	99	107	111	89
Shelby	270	273	260	286	244
Stark	115	104	102	78	86
St. Clair	582	681	626	608	701
Stephenson	323	328	302	312	289
Tazewell	293	268	269	261	259
Union	236	142	226	194	196
Vermilion	540	581	505	489	437
Wabash	113	138	146	128	123
Warren	190	203	222	206	161
Washington	211	168	195	174	169
Wayne	216	218	238	231	231
White	252	247	218	260	252
Whiteside	276	230	262	289	264
Will	558	625	617	562	561
Williamson	133	222	220	203	229
Winnebago	180	311	318	349	317
Woodford	166	199	196	186	146

REPORT OF CORONERS' INQUESTS.

At the request of the State Board of Health the following information has been furnished by Alex. Woods, M. D., coroner of St. Clair county, and Secretary of the Illinois Coroners' Association. In forwarding this report Dr. Woods suggests the following form of blank for a yearly return of inquests from each county:

Report of Inquests in .... county, Illinois, for the year ending Dec. 31, 188-.
.................., Coroner, ... P. O.

No..........	Month.......	Sex........	Color.......	Age, years.	Single, married, widowed or unknown....	Nativity....	Occupation.	Cause of death....	Remarks.--If a suicide, state means of destroying life. If by poison state kind used--also cause for act, if known.

This blank to be ruled for 20 to 25 entries on each, as there are only 10 counties which have upwards of 20 inquests a year. At the foot, or upon the back, of each sheet should be the necessary instructions for filling out the return, and an extract from the law defining the duties of coroners.

It is intended to forward with these blanks for the returns for 1886, a circular letter from the Board, calling the attention of coroners to the fact that under the law they are liable to a fine for failure to report to the county clerks all deaths coming under their official notice. It is not believed that one half of the coroners in the State ever report a death to county clerks; one coroner, who held some 40 inquests in 1885, was very much surprised on being charged with dereliction in this respect, and was not aware that such reports were required—having "found nothing in the law relating to coroners."

For this, among other reasons, it is also purposed to renew, at the next session of the legislature, the attempt to secure the following amendments to the revised act of 1874 in relation to coroners, and to consolidate in the amended act the act of 1881 allowing coroners to appoint deputies and prescribing the duties of such deputies. Sections 1 to 14, inclusive, to remain unchanged. Section 15 to be amended by the insertion of the words here printed in italic:

Summoning and compelling the attendance of witnesses—oath.] §15. The coroner shall have power to *issue subpœnas for, and* summon, or cause to be summoned, and compel the attendance of all such witnessess whose testimony may probably be requisite to the proving of any fact or circumstance relating to the object of such his inquest, and to administer to such witnesses the proper oath;--

And the addition of the following new matter:

and whenever it shall appear to the satisfaction of the coroner that any person, duly subpœnaed to appear before him at an inquest, shall have failed, without just cause, to attend as a witness in conformity to the command of such subpœna, and it appears to the satisfaction of the coroner that the testimony of such witness is material, the coroner shall have power to issue an attachment to compel the attendance of such witness at such inquest.

ATTACHMENT, HOW SERVED—FEES TO BE PAID, BY WHOM.] § 16. Every such attachment may be directed to the sheriff or any constable of the county in which the witness resides, and shall be executed in the same manner as a warrant in a criminal case, and the fees of the officer for issuing and serving the same shall be paid by the person against whom the same shall have been issued, unless he show reasonable cause for his omission to attend, in which case the costs shall be taxed as in cases of attachment of witness in criminal cases.

WITNESSES TO BE DISCHARGED, WHEN—MAY BE FINED OR IMPRISONED, WHEN.] § 17. If any witness so attached shall show reasonable excuse for not appearing, as required by the subpœna, he shall be discharged, either with or without the payment of costs of the attachment, at the discretion of the coroner, but if he fail to show any good and sufficient reason for not attending, he shall be fined in such sum as the coroner shall think reasonable to impose, not exceeding ten dollars, and may be committed to the county jail until such fine and costs are paid, in like manner as persons may be committed for the nonpayment of fine and costs in criminal cases, and any fine so imposed and collected shall be paid into the school fund of the county in which the coroner holds his position.

CORONER TO NOTIFY WITNESSES TO APPEAR, ETC., WHEN—NOTICE AS VALID AS SUMSUMS.] § 18. When an inquest shall be continued by the coroner, it shall be his duty, forthwith, to call before him all witnesses summoned in the case, and verbally notify such as may attend to appear before him, to testify at the inquest on the day set for the continuance of the same, which verbal notice shall be in all respects as valid as a summons, and the coroner shall take note of the names of the witnesses so notified. No further summons shall thereafter issue to any witness so notified, and such notification shall have the same effect as an original summons, and may be the basis for an attachment of the witness.

WITNESS ATTACHED MAY BE DISCHARGED ON BAIL.] § 19. When a writ of attachment issued by the coroner, shall be executed, the officer may discharge such witness on his entering into recognizance to the State of Illinois with sufficient bond in the sum of one hundred dollars, with one or more sureties signing the same. The officer executing the writ is hereby authorized to take the same, providing for the appearance and due attendance of such witness, according to the command of such writ.

PENALTY FOR REFUSING TO TESTIFY.] § 20. A person summoned as a witness to appear before the coroner, and attending, who shall refuse to give evidence, which may be lawfully required to be given by such person, on oath or affirmation, may be committed to the county jail by the coroner, there to remain without bail until he give such evidence or be discharged by due course of law.

Sections 16 and 17 of the present law to remain unchanged in text but to become 21 and 22 respectively. Section 18 (new number 23) to be amended by inserting the words in italic:

TESTIMONY REDUCED TO WRITING, ETC.] § 23. The coroner shall cause the testimony of each witness who may be sworn and examined at any inquest, to be written out *at the expense of the county*, and signed by said witness, together with his occupation and place of residence, which testimony shall be filed with said coroner in his office and carefully preserved.

And the following re-arrangement of the remaining sections, with additions of new matter indicated by italic type:

SHALL MAKE, OR CAUSE TO BE MADE A POST-MORTEM.] § 24. The coroner shall, when necessary to ascertain the cause of death, at any inquisition, make, or cause to be made, a post-mortem examination, at the expense of the county: Provided, that if the coroner be not a physician or surgeon, he may employ any reputable physician or surgeon to conduct said post-mortem examination.

FLOATERS.] § 25. *If the dead body of any person be found floating in any stream or body of water in this State, the coroner may, at the expense of the county, cause the same to be brought to shore, and removed from such stream or body of water.*

OFFICE, INQUEST RECORD, ETC.] § 26. Every coroner shall, at the expense of the county, be supplied with *an office in a suitable place for the transaction of his duties and the filing and preservation of the records and papers pertaining thereto, a copy of the revised statutes of this State, the necessary stationery for his office*, and with proper record books, wherein he shall enter the name, if known, of each person upon whose body an inquest shall be held, together with the names of the jurors comprising the jury, the names, residence and occupations of the witnesses who are sworn and examined, and the verdict of the jury; in case the name of the person deceased is not known, the coroner shall make out a description of said person, and enter the same upon the record book to be so kept by him, together with all such facts and circumstances attending the death which may be known, and which may lead to the identification of the person, and shall carefully take an inventory of said person's personal effects and property of every kind and nature whatever, and state on his records what has been done with the same, and where the proceeds of any such property and the money and papers, if any, are deposited.

DISPOSITION OF PROPERTY, ETC.] § 27. When any valuable personal property, money or paper, are found upon *or found belonging to the person upon whom an inquest is held*, the coroner shall take charge of the same and deliver the same to those entitled to its care or possession; but if not claimed, or if the same shall be necessary to defray the expenses of the burial, the coroner shall, after giving ten days' notice of the time and place of sale, sell such property, and after deducting coroner's fees and funeral expenses, deposit the proceeds thereof, and the money and papers so found, with the county treasurer, taking his receipt therefor, there to remain subject to the order of the legal representatives of the deceased, if claimed within five years thereafter, or if not claimed within that time to vest in the county.

DISPOSITION OF BODY—BURIAL.] § 28: After the inquisition the coroner may deliver the body of the deceased to his friends, if there be any, but if not, he shall cause him to be decently buried, the expenses to be paid from the property of the deceased, if there is sufficient, if not, by the county.

ARREST AND COMMITAL OF SLAYER, ETC.] § 29. If a person implicated by the inquest as the unlawful slayer of the deceased or as accessory thereto, is not in custody therefor, the coroner shall apprehend and commit, or cause to be apprehended or committed to the county jail such person, there to remain until discharged by due course of law.

WHEN JUSTICE TO ACT AS CORONER.] § 30. In the absence of the coroner *from his county* any justice of the peace of the county, knowing or being informed of the finding of a dead body of any person, as aforesaid, shall have the like powers and discharge the same duties as are herein imposed upon the coroner, and shall be entitled to the same fees as the coroner for like services: *Provided, that if the coroner is present in his county, but unable to attend and hold the inquest, he may authorize any justice of the peace to take said inquest.*

MAY APPOINT DEPUTIES.] § 31. Each coroner may appoint one or more deputies, not exceeding the number allowed by rule of the circuit court of his county, and take bond or security from the same for his indemnity. Such appointment shall be in writing and signed by the coroner, and their compensation shall be determined by the county board.

DEPUTY TO TAKE OATH.] § 32. Each deputy shall, before entering upon the duties of his office take and subscribe an oath or affirmation in like form as required of coroners, which shall be filed in the office of the county clerk.

DUTIES OF DEPUTY.] § 33. Deputy coroners, duly appointed and qualified, may perform any and all the duties of the coroner in the name of the coroner, and the acts of such deputies shall be held to be the acts of the coroner

REPEAL.] § 21. All laws and acts inconsistent with this act are hereby repealed.

Section 22 of the present law, concerning the liability of railroad companies, having been declared unconstitutional, is omitted in the proposed amended bill.

STATISTICS OF CORONERS' INQUESTS.

Total number of bodies on which inquests were held		2,134
Total number inquests held by coroners	1,999	
Total number inquests held by justices of the peace	125	—2,124
Number of bodies identified	2,007	
Number of bodies unidentified	117	—2,124

Number of inquests in each month.

December, 1884	146	April, 1885	180	August, 1885	173
January, 1885	161	May, 1885	157	September, 1885	172
February, 1885	128	June, 1885	221	October, 1885	181
March, 1885	165	July, 1885	227	November, 1885	174

Inquests in each County.

Counties.	No.	Counties.	No.
Adams	28	De Witt	3
Alexander	No report		
Bond	7	Douglas	2
Boone	3	Du Page	21
Brown	1	Edgar	No report
		Edwards	3
Bureau	13	Effingham	4
Calhoun	3		
Carroll	7	Fayette	No report
Cass	8	Ford	No report
Champaign	7	Franklin	1
		Fulton	No report
Christian	8	Gallatin	6
Clark	2		
Clay	2	Greene	5
Clinton	6	Grundy	12
Coles	8	Hamilton	5
		Hancock	6
Cook	1096	Hardin	1
Crawford	3		
Cumberland	4	Henderson	3
De Kalb	9	Henry	3

Counties.	No.	Counties.	No.
Iroquois	12	Ogle	13
Jackson	8	Peoria	46
Jasper	2	Perry	7
		Piatt	8
Jefferson	No report	Pike	No report
Jersey	2		
Jo Daviess	9	Pope	0
Johnson	2	Pulaski	9
Kane	40	Putnam	No report
		Randolph	4
Kankakee	30	Richland	1
Kendall	9		
Knox	13	Rock Island	22
Lake	12	Saline	0
La Salle	73	Sangamon	40
		Schuyler	0
Lawrence	2	Scott	7
Lee	11		
Livingston	12	Shelby	9
Logan	12	Stark	No report
Macon	10	St. Clair	102
		Stephenson	3
Macoupin	16	Tazewell	12
Madison	44		
Marion	3	Union	4
Marshall	9	Vermilion	15
Mason	2	Wabash	3
		Warren	13
Massac	2	Washington	4
McDonough	6		
McHenry	7	Wayne	3
McLean	32	White	No report
Menard	6	Whiteside	14
		Will	44
Mercer	3	Williamson	2
Monroe	8		
Montgomery	5	Winnebago	9
Morgan	21	Woodford	3
Moultrie	7		

RECAPITULATION.

In	1 county	1,096 inquests	1,096
	1 county	102 inquests	102
	1 county	73 inquests	73
	1 county	46 inquests	46
	2 counties	44 inquests each	88
	2 counties	40 inquests each	80
	1 county	32 inquests	32
	1 county	30 inquests	30
	1 county	28 inquests	28
	1 county	22 inquests	22
	2 counties	21 inquests each	42
	1 county	16 inquests	16
	1 county	15 inquests	15
	1 county	14 inquests	14
	4 counties	13 inquests each	52
	6 counties	12 inquests each	72
	1 county	11 inquests	11
	1 county	10 inquests	10
	8 counties	9 inquests each	72
	6 counties	8 inquests each	48
	7 counties	7 inquests each	49
	5 counties	6 inquests each	30
	3 counties	5 inquests each	15
	5 counties	4 inquests each	20
	13 counties	3 inquests each	39
	9 counties	2 inquests each	18
	4 counties	1 inquest each	4
			2,124

In 89 counties 2,124 inquests were held.

In 3 counties no inquests were held.

From 10 counties there were no reports.

Personal Data.

Sex.		Race.		Social state.	
Male	1,673	White	2,075	Single	1,034
Female	450	Colored	46	Married	708
Unknown	1	Chinese	3	Unknown	382
Total	2,124	Total	2,124	Total	2,124

Ages.

Under 5 years	244	From 50 to 60 years	184
From 5 to 10 years	65	60 to 70 "	104
10 to 20 "	177	70 to 80 "	53
20 to 30 "	332	80 to 90 "	15
30 to 40 "	327	Unknown	133
40 to 50 "	314	Not given	176
Total			2,124

Nativities.

United States	905	Bohemia	18	Denmark	5
Germany	383	Switzerland	13	Russia	3
Ireland	231	Italy	12	China	3
England	63	Austria	10	Holland	2
Scandinavia	62	Hungary	10	Belgium	1
Poland	36	Scotland	9	Not ascertained	172
Canada	26	Sweden	8	Not reported	127
France	19	Wales	6		
				Total	2,124

Occupations.

No occupation	546	Shoemaker	10	U. S. Mail agent	2
Laborer	435	Police officer	10	School-teacher	2
Farmer	165	Saloonkeeper	9	Car-repairer	2
Mechanic	56	Conductor	7	Editor	1
Brakeman	51	Druggist	7	Professor	1
Servants	35	Peddler	7	Minister	1
Carpenter	32	Newsboy	7	R. R. Superintendent	1
Housekeeper	29	Cigarmaker	6	Paperhanger	1
Clerk	21	Machinist	6	Fisherman	1
Engineer	20	Sporting-woman	6	Stonecutter	1
Merchant	20	Cooper	5	Photographer	1
Teamster	20	Expressman	5	Telegraph operator	1
Butcher	19	Agent	4	Boot-black	1
Painter	18	Printer	4	R. R. watchman	1
Coal-miner	16	Baker	3	Cook, male	1
Sailor	15	Lawyer	3	Unknown	280
Blacksmith	14	Physician	3	Not reported	177
Fireman	14	Convict	3		
Tailor	12	Drummer	2	Total	2,124

Causes of Death.

Suicide	358	Lightning	12
Railroad accident	322	Asphyxia	12
Drowned, accidental	205	Falling building	11
Homicide, murder	121	Street car accident	11
Heart disease	117	Fall from building	10
Natural causes	84	Poison, accidental	10
Premature birth	70	Accident, not specified	10
Intemperance	58	Sunstroke	9
Burn	54	Pneumonia	9
Apoplexy	50	Sewer accident	8
Convulsions	47	Congestive chill	7
Gunshot, accidental	45	Kick of horse	7
Coal mine accident	38	Abortion	7
Falling from wagon	37	Blood poisoning	6
Fall, not specified	35	Explosion	4
Exposure	34	Shock	4
General debility	33	Epilepsy	4
Elevator accident	23	Shot at riot	3
Consumption	20	Other causes	95
Infanticide, child murder	18	Unknown	84
Dislocation of neck	16		
Machinery accident	16	Total	2,124

DATA CONCERNING SUICIDES.

Sex.		Race.		Social state.	
Male	268	White	349	Single	117
Female	74	Colored	2	Married	159
Not stated	11	Chinese	2	Unknown	77
Total	353	Total	353	Total	353

Ages.

10 to 20 years	17	70 to 80 years	10
20 to 30 years	55	80 to 90 years	2
30 to 40 years	62	Not given	75
40 to 50 years	62		
50 to 60 years	52	Total	353
60 to 70 years	18		

Nativities.

United States	110	Switzerland	2
Germany	110	Scotland	1
Ireland	17	Not ascertained	93
England	15		
Sweden	3	Total	353
China	2		

Occupations.

Laborer	47	Druggist	4	Telegraph operator	1
Housekeeper	33	Sporting-woman	3	Judge	1
Mechanic	31	Fireman	2	Other occupations	31
Farmer	28	Convict	2	Unknown	70
No occupation	10	Laundryman	2	Not reported	59
Merchant	8	Lawyer	1		
Saloonkeeper,	8	Physician	1	Total	353
Clerk	5	Student	1		
Printer	4	Policeman	1		

Means of Destroying Life.

Shooting	105	Jumping out of window	3
Hanging	86	Inflicted wounds	2
Poison	72	Asphyxia	1
Drowning	42	Not given	12
Cutting throat	25		
Throwing self under R. R. train	5	Total	353

NOTE.—Of 72 suicides by poison, 16 used "Rough on Rats," 12 used morphine, 9 used laudanum, 9 used strychnine, 4 used opium, 1 each used "Raticide," chloral and Paris green and in the remaining 19 the kind of poison used is not reported.

Probable Cause of Suicide.

Mental derangement	60	Out of employment	9
Despondency	58	Jealousy	6
Intemperance	42	Disappointment	3
Financial trouble	31	Unknown	81
Domestic trouble	30		
Ill health	20	Total	353
Tired of life	13		

Suicides in each County.

Counties.	No.	Counties.	No.
Adams	10	Johnson	0
Alexander	No report	Kane	11
Bond	2		
Boone	0	Kankakee	2
Brown	0	Kendall	2
		Knox	6
Bureau	2	Lake	1
Calhoun	0	LaSalle	15
Carroll	1		
Cass	3	Lawrence	0
Champaign	0	Lee	4
		Livingston	1
Christian	0	Logan	1
Clark	0	Macon	2
Clay	2		
Clinton	0	Macoupin	5
Coles	1	Madison	10
		Marion	1
Cook	135	Marshall	3
Crawford	1	Mason	1
Cumberland	1		
DeKalb	0	Massac	0
DeWitt	2	McDonough	2
		McHenry	1
Douglas	0	McLean	9
DuPage	2	Menard	1
Edgar	No report		
Edwards	0	Mercer	0
Effingham	1	Monroe	3
		Montgomery	0
Fayette	No report	Morgan	3
Ford	No report	Moultrie	2
Franklin	1		
Fulton	No report	Ogle	4
Gallatin	0	Peoria	11
		Perry	0
Greene	2	Piatt	2
Grundy	0	Pike	No report
Hamilton	1		
Hancock	2	Pope	0
Hardin	0	Pulaski	0
		Putnam	No report
Henderson	0	Randolph	1
Henry	2	Richland	0
Iroquois	4		
Jackson	0	Rock Island	6
Jasper	0	Saline	0
		Sangamon	11
Jefferson	No report	Schuyler	0
Jersey	3	Scott	0
Jo Daviess	1		

Counties.	No	Counties.	No.
Shelby	3	Washington	1
Stark	No report		
St. Clair	20	Wayne	1
Stephenson	1	White	No report
Tazewell	4	Whiteside	5
		Will	8
Union	1	Williamson	0
Vermilion	0		
Wabash	0	Winnebago	5
Warren	3	Woodford	1

RECAPITULATION.

In 1 county	135 suicides	135
1 county	20 suicides	20
1 county	15 suicides	15
3 counties	11 suicides each	33
2 counties	10 suicides each	20
1 county	9 suicides	9
1 county	8 suicides	8
2 counties	6 suicides each	12
3 counties	5 suicides each	15
4 counties	4 suicides each	16
7 counties	3 suicides each	21
14 counties	2 suicides each	28
21 counties	1 suicide each	21

In 61 counties there were 353 suicides.
In 31 counties there were no suicides.
From 10 counties there were no reports.

Data concerning Deaths from Railroad Accidents.

Total number of persons killed by railroad accidents ...322

Embraced in two classes—
a Railroad employés and passengers.
b All other persons.

Class A.—Employés	77		
Passengers	8		
	—	85	
Class B.—All others		170	
Class not stated		67	
		—	322

Character of accident—

Collision	6	
Derailment of train	2	
Falling from moving train	90	
Caught between cars, run down, walking on or attempting to cross track, etc	171	
Accidents not specified	46	
	—	322

Killed by passenger trains ...69;—by freight trains ...201

MISCELLANEOUS.

Number of persons burned in public buildings	25
" " " " " private building	30
Number of persons buried at expense of respective counties	451
Number of post-mortem examinations	135
Cost of inquests for the year, including fees and burials	$42,977 13
Amount collected from estates of deceased	3,308 95
Net cost to counties	$39,668 18

No reports of inquests were received from the counties of Alexander, Edgar, Fayette, Ford, Fulton, Jefferson, Pike, Putnam, Stark or White.
No inquests were held in Pope, Saline or Schuyler counties.

G.---Medical Education in the United States and Canada.

MEDICAL EDUCATION AND MEDICAL COLLEGES IN THE UNITED STATES AND CANADA—1765-1886.

In June, 1880, a committee of the ILLINOIS STATE BOARD OF HEALTH was appointed for the purpose of obtaining from the Medical Colleges of this country their own statements concerning requirements, curricula of study, duration and number of lecture courses and other data upon which to base a definition of the phrase "good standing," as used in the Act to Regulate the Practice of Medicine in Illinois. To this end the following inquiries were addressed to each of the then existing colleges in the United States:

I. In the present state of medical science and education in this country, what preparation is and ought to be required for admission to the lectures of a medical college, to entitle it to "good standing?"

II. On what branches of medical and cognate science ought courses of lectures to be provided, and what length of course on each to entitle the college to "good standing?"

III. What requirements as to full attendance, reading and quizzes, or other examinations, occasional or final, ought to be maintained in such colleges?

IV. What attendance on lectures, as to time, number of terms or courses and intervals between courses, are and ought to be required by such colleges as conditions of graduation?

V. What other conditions of graduation, such as hospital practice, or practice under preceptors, attendance on clinics, and dissections, are and ought to be required for graduation?

Similar inquiries, it may be observed, were also addressed to prominent members of the profession and to medical societies; and upon the consensus of replies received from the colleges themselves, and from these other sources of information, the Standard of Minimum Requirements—entitling a college to be held in "good standing," for the purposes of the Medical-Practice Act—was framed and finally adopted by the BOARD.

Further details of this subject will be found in the THIRD ANNUAL REPORT, pp. 42-53; in the FOURTH ANNUAL REPORT, pp. IX, 39-95; in the FIFTH ANNUAL REPORT, pp. XII, XIII, 1-202; in the SIXTH ANNUAL REPORT, pp. IX—XVI, I—XXVI, 1-96; in the SEVENTH ANNUAL REPORT, pp. X, XI, 473-601; and in the Abstracts of the Proceedings of the BOARD in these several volumes.

FROM this effort to define with more precision, and in accordance with the standard of good and well-accredited medical schools, the qualifications and conditions under which the Board may recognize the diplomas of any given college as in "good standing," a vast amount of information, historical, technical and miscellaneous, has been accumulated—mainly by correspondence, but much of it by the personal investigation and research of the Secretary. Originally intended merely to subserve the purpose above described, the value of this information for reference was at once obvious, and the data first obtained were tabulated and published as an appendix to the report of the Committee on Medical Education and Medical Colleges.

This tabulation, out of which has been gradually evolved the present section, embraced a total of 59 schools—45 regular, 10 homeopathic, 3 eclectic and 1 physio-medical—and exhibited, in parallel columns on a single sheet, the courses of study, fees and requirements of each institution. In the next Annual Report (the Fourth) this was expanded into a "Directory of the Institutions granting Medical Diplomas or Licenses in the United States and Canada," occupying 57 pages, and giving the titles, locations, dates of organization and other historical data, faculties, courses of instruction, requirements for admission and for graduation, fees, numbers of students and of graduates at the last preceding sessions, and numbers of graduates practicing in Illinois—of 119 institutions in the United States and Canada; together with the titles, etc., of 56 extinct institutions, making a total of 175, or almost three times as many as were contained in the embryo report of 1880.

In the Fifth Report the Directory was revised, enlarged and brought up to the dates of the announcements for the sessions of 1883-84. The total number of institutions in existence was increased to 136, and of extinct to 95, making an aggregate of 231. To the College Directory of each State was prefixed the text of the laws of the State regulating medical practice, or bearing upon the interests of the profession; together with comments of correspondents concerning such laws, their operation and the status of the profession and of medical education and practice. Under the titles "Conspectus of the Medical Colleges of America," in the Sixth Annual Report, and "Medical Education and Medical Colleges in the United States and Canada; 1765 to 1885," in the Seventh Annual, the work was still further perfected, and the total of 59 schools—the information concerning which was given on one sheet in the Third Annual Report—was increased to 233, occupying 131 pages of the last Report. Laws and regulations enacted since the publication in the Fifth Annual have been added, and a Historical Review of the Regulation of the Practice of Medicine since A. D. 1422, together with the text of Decisions under Medical-Practice Laws, are given in the Seventh Annual Report.*

During the period covered by this action of the Illinois State Board of Health, (1880–1886) there has been a marked and increasing interest in the subject of medical education and the regulation of medical practice. State Medicine—long limited to the agency of the State in matters of hygiene beyond the control of the individual, and thence tardily extended to embrace measures of preventive medicine in general—has finally been broadened so as to include within its scope the field of curative medicine itself, at least in so far as "it is the duty of the State to protect its citizens from the injuries they may sustain from the practice of incompetent physicians and surgeons, as well as from any other source of danger to public health."[*]

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*These are not included in the Report on Medical Education and Medical Colleges, but will be found in separate sections, occupying pages 467-470, and pages 429-465, respectively.

In a recent address, delivered at the XXXVIIth Annual Session of the American Medical Association, St. Louis, May 6, 1886, the Secretary of the Board, as Chairman of the Section in State Medicine, traced the growth of this movement and set forth the authority by which the State assumes to regulate the practice of medicine. As having a direct bearing upon the subject of medical education the following passages are here quoted:

THAT authority [upon which is based the right of the State to regulate medical practice] is the inherent and plenary power which resides in the State to prohibit all things hurtful, and to promote all things helpful, to the comfort, welfare and safety of society. Speaking specifically of the Illinois Medical-Practice Act, ex-Governor John M. Hamilton has recently said: "The object of the Medical-Practice Act was primarily a police regulation. Incidentally it was educational. Primarily the purpose of the law was to rid the State of incompetent, ignorant and dangerous mountebanks and quacks, who were carrying on a fraudulent and nefarious business by all manner of deceit in a pretended practice of medicine among the people. It was to protect the lives, the health, the morals and the property of the people of the State from the shameless depredations of swindlers and adventurers who, by all manner of false representations and deceptive promises, were taking advantage of the misfortunes of the people in sickness and ailments of all kinds, to still further injure their health, endanger their lives, and rob them of their money.

"Incidentally the law was designed to require a reasonable amount of education to fit one for the practice of medicine before he should be allowed to enter that profession, so directly and intimately connected with the lives, the health and the happiness of the people. Both these purposes come clearly within the police powers of the State in affording such protection to its citizens."

An unbroken line of authorities, from Blackstone down to the most recent decisions of the various Supreme Courts, hold that the police powers of the State are plenary and inalienable, co-extensive with the natural right of self-protection; that their exercise is demanded and justified by the "law of overruling necessity;" and that broadly, they are the foundation of all laws and regulations for the well-being or government of the people, and especially, of all laws, ordinances, rules and regulations for the preservation of the health or safety of the community.

Early in the history of the country, laws, thus founded, were enacted for the regulation of the practice of medicine. But the sparse population and the conditions which then obtained, as well as the fact that many of the enactments were so onerous and restrictive that they came to be regarded by the public as in the nature of class legislation, operating to make the profession a close guild or trades' union, rendered their enforcement impracticable. They were gradually repealed or fell into a state of "innocuous desuetude," until about 1830–1840 there were practically no restrictions, the profession became a "free-for-all;" bogus diplomas were openly and unblushingly sold, and displayed by their purchasers, as credentials of membership in a learned profession.

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[*] Dr. H. A. JOHNSON "On the Regulation of Medical Practice by State Boards of Health as Exemplified by the Execution of the Law in Illinois." Address before the American Medical Association at the Atlanta meeting in 1879.

The country was overrun by hosts of ignorant, immoral and dangerous swindlers, self-styled "doctors," who preyed upon the unfortunate afflicted; "isms," and so-called "schools" of medical practice multiplied, a mushroom crop of diploma-mills sprang up over the land; and as a natural result, the general standard of medical education and of requirements for graduation—except among the best class of medical colleges—fell lower and lower.

A reaction from this condition began at about the close of the first century of our National existence, at which time, 1876, North Carolina had a well-framed law, creating a State Board of Medical Examiners, passed in 1859. Kentucky had enacted a law in 1874, creating district examining Boards, but except in a few counties, this soon became a dead letter. In 1875 Nevada, and in 1876 California and Texas legislated upon the subject. In 1877 Alabama established a State Board of Medical Examiners, and Illinois passed a Medical-Practice Act, the execution of which was devolved upon a State Board of Health created by a separate enactment. Within the next two years only two other States took action—Kansas in 1879 (repealed in 1881) and New York in 1880.

In 1881 nine States and one Territory enacted medical-practice laws, viz.: Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Nebraska, New Jersey, Pensylvania and Wisconsin. In 1882, Louisiana, Mississippi, New Hampshire, New Mexico, South Carolina, West Virginia and Wyoming; in 1883, Delaware, Michigan, Minnesota and Missouri; in 1884, Dakota and Virginia, and, since the last meeting of the Association, Indiana and Iowa have swelled the total to thirty-three States and Territories of the Union which now exercise some degree of legislative control over the practice of medicine within their borders.

The general drift and tendency of this legislation are toward securing a recognized standard of professional attainments, evidence of which—with a few notable exceptions—is afforded by the presentation of a diploma of graduation from some legally-chartered institution in good standing; or, in the absence of this, an examination more or less strict, in the various fundamental branches of medical science.

The exceptions are in the States of Alabama, Mississippi, North Carolina and Virginia, where the diploma is ignored, and the applicant for admission to practice must establish his possession of the necessary skill and ability so far as an examination may determine the same.

As an evidence of fitness and qualification the diploma must obviously vary in character with the character of the institution by which it is issued. Medical instruction in this country is almost entirely a matter of private enterprise, and until within a few years numerous "colleges" with the briefest of lecture-terms, conducted by the scantiest of faculties—in which one man often played many parts—innocent of clinical, surgical or anatomical material, and with the most charitable of examinations have graduated into the profession all who could pay the necessary fees and armed them with the talismanic diploma.

Since 1765 a total of 224 medical educational institutions have been founded—not established—in this country, of which number 105 are now fortunately extinct.* There are still remaining 120 medical schools of all kinds in the United States, and among them, it is only fair to say are some in which the course of instruction, the facilities and the competency of the teachers are as high as anywhere in the world. Within the last twenty years there has been, in fact, a marked and gratifying improvement in the standard of medical education. * * *

While much of this progress is due to a general and increasing desire on the part of the profession to raise the standard of attainments necessary to enter its ranks, and to the enforcement of certain requirements in States which have enacted laws regulating the practice of medicine, it will not be invidious to attribute a fair share to the adoption in 1880, by the ILLINOIS BOARD of a schedule of minimum requirements, enforced since 1883, and which prescribes that a medical college, in order to be held in good standing for the admission of its graduates to practice in Illinois, shall exact such a general preliminary education of the intending student before his admission to the lecture room, as will enable them to comprehend the instruction therein given; and shall issue its diploma conferring the degree of M. D., only upon the completion of such curriculum of study—as to the branches of medical science taught, the duration of the reading, and of lecture-terms, and the amount of practical instruction in hospital and at the bedside—as obtains in the average medical school.

Minnesota, Missouri and West Virginia exact substantially the same standard and the work of the Minnesota Board especially has been wide-reaching and beneficial in this respect. The Iowa law, just enacted, confers similar powers, and the influence upon medical education of this group of States—Minnesota, Missouri, Iowa and Illinois—in establishing a uniform test of the "good standing" of a medical college, must be felt throughout the country. Fully one-third of the new graduates every year settle in the West, and colleges must, perforce, take cognizance of this fact.

While the schedule of minimum requirements does not set up so high a standard as that aimed at by the American Medical College Association, it has the advantage of applying to all schools of medicine and of having been successfully enforced for three years. Furthermore it is susceptible of modification, and the question is already being considered whether the time is ripe for a further advance.

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*These figures are taken from the report of 1885. The corresponding figures from the present report will be found summarized in the course of these prefatory remarks.

Until within a short time there had been, for sixty years, no marked departure from the orthodox three years of study and two courses of lectures as the requirements for graduation. But, as already shown, there are now twenty-four colleges which practically require four years of study and attendance upon three terms of lectures; and fifty-eight others which make provisions for a similar extended course.

The domain of medicine has so far widened its borders, especially within the present generation, that the methods and periods of study which sufficed thirty or forty years ago are no longer adequate.

A low standard of medical education and the absence of uniform legal requirements are also responsible, almost exclusively, for the overcrowding of the profession. Did time suffice it would be interesting to present this matter in detail, but I can now only glance at some of the results of my study of this phase.

In 1880 there were, according to the National census, 83,436 physicians in the United States. Since that date there have been added—exclusive of the foreign increment—23,531 new graduates, not including those of the last session, 1885–1886. This makes a total of 106,947, and is an annual increase of over five and one-half per cent. while the annual increase of population is less than two per cent.

The annual death rate—basing that of the country at large upon the Illinois rate, which I have pretty accurately determined to be 12.38 per thousand—is less than that of adult males engaged in all occupations; and the difference will probably fairly balance the loss by those who retire from practice on account of old age, physical disability, and other causes not connected with the question of fitness and professional success.

It will, then, be within bounds to say that the excess of the percentage of new graduates over the percentage of increase of population represents the number of unnecessary recruits to the ranks of the profession every year.

The answer to the question, What becomes of them? is indicated by these figures concerning the profession in Illinois:

June 14, 1880:	
Total number in practice as shown by Official Register of that date	5,979
Total number of new certificates issued to new men up to February 10, 1886	2,063
Total number to be accounted for	8,042
February 10, 1886:	
Total number in practice as shown by Official Register of that date	6,065
Total number died	344
" " left the State	1,061
" " abandoned practice	572
	8,042

That is to say, over seven per cent. of the entire number failed as physicians and sought other modes of obtaining a livelihood. It is noteworthy, by the way, that non-graduates fall out in much larger proportion than the graduates, and that the graduates of three-course schools show the smallest percentage of loss, either by removal from the State or by abandonment of practice.

Here are some instructive figures for Chicago: In 1880 there were certificates issued to 172 new comers; five years later only 84 of these remained—a loss of over one-half. In 1881 there were 183, in 1882, 171; 1883, 200, and in 1884, 198 new comers; and in 1885 there remained of each year's group, 97, 116, 145, and 168, respectively. In one year the loss was 15 per cent.; in two years, 30 per cent.; in three years, 32 per cent.; in four years, 47 per cent.; and in five years over 51 per cent.

There are from 1,500 to 2,000 physicians in the State of Illinois more than are necessary to supply the legitimate demands for professional services, and who are not earning a comfortable livelihood from legitimate professional exertion. And what is true of Illinois is probably substantially true of every State in the Union. I will not stop to dwell upon the demoralizing effect of this condition—demoralizing to the individual, to the profession, and to the public. Instances of this demoralization must be familiar to every member of the Association.

On the other hand, and by way of contrast, I wish to add one further illustration from my personal experience. During the past nine years my official position has made me familiar with the professional history and status of over 13,000 men, more or less directly connected with the practice of medicine in Illinois. I have followed up, with especial interest and care, the careers of 789 out of 1,000 physicians who studied four years and attended three terms before graduating. These are, with few exceptions, the successful and prominent members of the profession in the different communities in which they reside. They are well equipped by general education, by an ample period of professional study, by didactic and clinical instruction, and by hospital practice. They are successful, as a rule, because they have fitted themselves to command success, and this Association can do few things more directly in the interest of the public and of the profession than to exert its further influence to increase their number while decreasing the number of the opposite class.

The foregoing considerations seem to me to lead logically to the following conclusions:

1. That the best interests of the public welfare demand the highest attainable standard of educational qualifications, skill and ability, as well as of professional and personal honor, integrity and morality, among those engaged in the practice of medicine.
2. That it is the duty of the State to exercise the inherent plenary power and authority which it possesses for the protection and promotion of the public welfare, to secure such standard.
3. That uniform State laws, exacting of every one aspiring to practice medicine proof of personal fitness and professional competency, would prove the most potent agency in improving the standard of medical education and in enhancing the dignity and usefulness of the medical profession."

While awaiting the realization of these desiderata the actual advances and improvements which are being made from year to year, are full of promise and encouragement for the future. A few colleges have, it is true, receded from the positions which they had assumed at the date of the last Report; but more have increased their requirements, both for admission to their lecture classes and for graduation, and have provided better facilities for teaching, for clinical instruction and for laboratory work and research.

The progress in these latter directions is especially notable. Bequests and donations of the most generous character continue to be made for these purposes. In connection with the respective institutions, described in the following pages, will be found the details of the additions to the Vanderbilt bequest of $1,000,000 to the College of Physicians and Surgeons of the City of New York—the Sloane Maternity Hospital and the Vanderbilt clinic; the endowment of $100,000 for the erection and equipment of a special laboratory for the Medical Department of the University of the City of New York; a similar establishment—the Carnegie Laboratory—for the Bellevue Hospital Medical College, the gift of Mr. Andrew Carnegie; the Hoagland Laboratory of the Long Island College Hospital, presented by Dr. C. N. Hoagland, a physician of Brooklyn and member of the Board of Regents of the school; the new college building for the Medical Department of the Western Reserve University, the gift of Mr. John L. Woods of Cleveland; the Hawkes Hospital, presented to the Columbus Medical College by Dr. W. B. Hawkes, one of its trustees; the bequest of the late Hon. Samuel B. Ensworth of $100,000, for the erection and maintenance of the "St. Joseph Medical College and Hospital," St. Joseph, Mo.; a college building for the Medical Department of Willamette University, provided by the citizens of Portland, Oregon; and other additions to what may be termed "the plant" of medical education in the United States.

In his Address in Medicine, recently delivered before the British Medical Association,* Dr Billings, speaking of the various fields of labor whose proper working is of the greatest importance in medical education, both to the student and the practitioner, thus referred to the tendency, increasing among men of means, to regard their wealth as a trust to be used for the benefit of humanity:

"One of these is experimental laboratory work, and in this direction the prospect of valuable contributions from America is now exceedingly good. Some of the wisest of our most wealthy men have shown their appreciation of the responsibilities which riches entail on their possessors by seeking new channels through which to benefit their fellow men. While the old and well-known methods of endowing hospitals and charitable institutions are not neglected, there is apparent an increasing tendency to endeavor to promote the advancement of knowledge, and especially of such knowledge as tends to the mitigation of suffering and the improvement of the race, to furnish means for the investigation of disease, to provide laboratories, and to endow medical schools and thus place them beyond the reach of the temptations and difficulties which must always exist when such schools are dependent upon the fees of students, and are therefore, practically, commercial manufacturing establishments."

Through the growing sentiment in the medical profession in favor of a higher standard of education and qualifications—and which sentiment has already found expression in the enactment of medical practice laws and the enforcement of stricter requirements for admission to its ranks—and aided by this increasing provision of means and facilities for study, investigation, observation and research, the competition between medical schools is gradually being divested of its commercial features. A higher plane of development has been entered upon, and in the struggle for existence on this plane the "commercial manufacturing establishments" are at a disadvantage which will compel their reform or hasten their extinction.

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*At Brighton, England, August 11, 1886.

From the Summary of Institutions and Students in the following pages it will be seen that there are 252 medical institutions embraced in the present report. Of this number 123 are now extinct, leaving 129 still in existence, being two less than in the report for 1885. There have been added during the past year two new regular schools, while one regular and two eclectic schools, in existence during 1885, have closed their doors. The number of homeopathic schools remains unchanged.

Diplomas of the last session, 1885–86, have been presented to the Illinois State Board of Health from 48 regular, 7 homeopathic, 3 eclectic, and 2 physio-medical schools; as compared with 42 regular, 7 homeopathic, 3 eclectic, and 2 physio-medical schools last year. Graduates of 10 out of the 48 regular schools, and of 4 out of 12 other schools, were required to supplement their diplomas by passing examinations before the Board in branches or subjects of the Schedule of Minimum Requirements omitted in the curricula or requirements of their respective schools. In 1884 the graduates of 17 out of 31 regular, and of 4 out of 6 other schools, were required to submit to such examination; and in 1885 the graduates of 11 out of 38 regular, and of 4 out of 12 other schools were so examined. These figures give percentages of 55 for regular and 66.6 for other schools in 1884; of 29 for regular and 33.3 for other schools in 1885; and of 20.8 for regular and 33.3 for other schools in 1886. This diminishing percentage of conditioned graduates may be taken as a fair measure of the increasing compliance of the colleges with the Standard of Minimum Requirements adopted by the Illinois Board.

In this connection it is necessary to repeat that diplomas issued at the close of the sessions of 1883–84, and subsequently, are accepted unconditionally—as sufficient warrant for the certificate of the Board, required by law—from all colleges which give evidence, in their Announcements and elsewise, of an actual and bona-fide compliance with the Schedule herein published. The diplomas of colleges which do not give such evidence are required to be supplemented by an examination before the Board on the branches or subjects of the Schedule omitted by the colleges in question.

The following is the text of the

Schedule of Minimum Requirements.

I. Conditions of admission to lecture-courses.—1. Credible certificate of good moral standing. 2. Diploma of graduation from a good literary and scientific college, or high school—a first-grade teacher's certificate. Lacking this—a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics and natural philosophy.

II. BRANCHES OF MEDICAL SCIENCE TO BE INCLUDED IN THE COURSE OF INSTRUCTION.—1. Anatomy. 2. Physiology. 3. Chemistry. 4. Materia-Medica and Therapeutics. 5. Theory and Practice of Medicine. 6. Pathology. 7. Surgery. 8. Obstetrics and Gynecology. 9. Hygiene. 10. Medical Jurisprudence.

III. LENGTH OF REGULAR GRADUATING COURSES.—1. The time occupied in the regular courses or sessions from which students are graduated shall not be less than five months, or twenty weeks, each. 2. Two full courses of lectures, not within one and the same year of time, shall be required for graduation with the degree of Doctor of Medicine.

IV. ATTENDANCE AND EXAMINATION OR QUIZZES.—1. Regular attendance during the entire lecture courses shall be required, allowance being made only for absences occasioned by the student's sickness, such absences not to exceed twenty per centum of the course. 2. Regular examinations or quizzes to be made by each lecturer or professor daily, or at least twice each week. 3. Final examinations on all branches to be conducted, when practicable, by competent examiners other than the professors in each branch.

V. DISSECTION, CLINICS AND HOSPITAL ATTENDANCE.—1. Each student shall have dissected during two courses. 2. Attendance during at least two terms of clinical and hospital instruction shall be required.

VI. TIME OF PROFESSIONAL STUDIES.—This shall not be less than three full years before graduation, including the time spent with a preceptor, and attendance upon lectures or at clinics and hospital.

VII. INSTRUCTION.—The college must show that it has a sufficient and competent corps of instructors, and the necessary facilities for teaching, dissections, clinics, etc.

Diplomas of colleges whose educational requirements and methods of instruction fall short of the above Schedule are not recognized as entitling their possessors to certificates authorizing them to practice in the State of Illinois. (This does not apply to diplomas issued prior to the sessions of 1883–84, but only to those issued at the close of said sessions and subsequently.) The only way in which holders of such diplomas may legally enter upon practice in this State is by passing a satisfactory examination before the BOARD on the branches or subjects of the Schedule omitted.

This Schedule is, therefore, the test of the "good standing" of a medical college in Illinois. Only colleges which come up to this minimum standard are accounted as in "good standing." To determine the status of any given institution, it is only necessary to compare the summary of the institution set forth in the following with the above Schedule.

As showing the increasing extent to which the Schedule is complied with, the following comparisons are of interest: There are now 114 colleges which exact an educational requirement as a condition of matriculation; in the first Report there were only 45. Attendance on three or more lecture-courses before graduation is now required by 41 colleges, as against 22 heretofore; and provision is made for a three- or four-years' graded course by 48 others. Hygiene is now taught in 110 colleges, and medical jurisprudence in the same number; as against 42 and 61, respectively, heretofore. The average duration of lecture-terms has increased from 23.5 weeks to 24.8; 9 more colleges have lecture terms of five months or over, and 13 more have terms of six months or over, as compared with the sessions of 1882-83. These changes have all been made in the medical colleges of the United States, no material alteration in the Canadian schools having taken place in these respects.

A total of 103,598 students—classified by schools of practice, by States, and by individual colleges—is accounted for in the several editions of this report. In the tables: Matriculates and Graduates in each State, 1877–78 to 1885–86, inclusive, and Matriculates and Graduates, sessions of 1885-86, 1884-85, 1883-84, and 1882–83, compared—will be found some interesting figures. Prior to the sessions of 1877–78 no attempt had ever been made to collect and collate these figures and data in this manner, and it has required persistent effort to perfect them for the earlier years. They are now believed to be so substantially correct as to justify the inferences which may be drawn from a comparison of the fluctuations in the following percentages of gain and loss in numbers of matriculates and graduates.

As compared with each preceding year, there was in 1878–79 a gain of 3 per cent. in matriculates and a loss of 0.6 per cent. in graduates; in 1879–80, a gain of 22.8 per cent. matriculates, and 20.5 per cent. graduates; in 1880–81, a gain of 3.2 per cent. matriculates, and 6.1 per cent. graduates; in 1881–82, a gain of 11.6 per cent. matriculates, and 23.4 per cent. graduates; in 1882–83, a gain of 1.4 per cent. matriculates, and a loss of 7.4 per cent. graduates; in 1883–84, a loss of 2.4 per cent. of matriculates and of 2.7 per cent. of graduates; in 1884–85, a further loss of 6.1 per cent. matriculates, and 6.8 per cent. of graduates.

During the last year there have been the following changes: A net increase of 363 matriculates, or a gain of 3 per cent., and a net increase of 222 graduates, or a gain of 5.8 per cent., in the sessions of 1885–86 over those of 1884–85. Of this increase 278 matriculates and 158 graduates were in schools in the United States, and 85 matriculates and 64 graduates in the Canadian schools.

By schools of practice (in the United States) the gains and losses were as follows: A gain of 306 matriculates and of 124 graduates in the regular schools; of 30 matriculates and of 39 graduates in the homeopathic; and a loss of 7 matriculates and a gain of 2 graduates in the eclectic; a loss of 7 matriculates and a gain of 6 graduates in the physio-medical, and losses of 44 matriculates and 13 graduates in miscellaneous schools.

There may be traced an interesting co-relation between these gains and losses, for the whole period, and the changes which have taken place in the regulation of the practice of medicine and in medical education which began about 1876. In that year there was a revival of interest in these subjects which resulted in legislative enactments in 31 States and territories during the decade. The following summary of the dates of these enactments will assist in the comparisons above suggested.*

* * * At about the close of the first century of our National existence * North Carolina had a well framed law, creating a State Board of Medical Examiners, passed in 1859. Kentucky had enacted a law in 1874, creating district examining boards, but except in a few counties, this soon became a dead letter. In 1875 Nevada and in 1876 California and Texas legislated upon the subject. In 1877 Alabama established a State Board of Medical Examiners, and Illinois passed a Medical-Practice act, the execution of which was devolved upon a State Board of Health created by a separate enactment. Within the next two years only two other States took action—Kansas in 1879 (repealed in 1881) and New York in 1880. In 1881 nine States and one Territory enacted medical-practice laws, viz: Arizona, Arkansas, Colorado, Connecticut, Florida, Georgia, Nebraska, New Jersey, Pennsylvania and Wisconsin; in 1882, Louisiana, Mississippi, New Hampshire, New Mexico, South Carolina, West Virginia and Wyoming; in 1883, Delaware, Michigan, Minnesota, Missouri; in 1884, Dakota and Virginia, and Indiana and Iowa have since swelled the total to thirty-three States and Territories of the Union which now exercise some degree of legislative control over the practice of medicine within their borders.

The effect of the passage of these various enactments and of the action taken under them—as for example, the enforcement a Schedule of Minimum Requirements, the definition of the phrase "good standing" as applied to medical schools, etc.—may be clearly seen in the figures and data given in the following pages.

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*From the Address in State Medicine, delivered at the Thirty-seventh Annual Session of the American Medical Association, May 6, 1886. By JOHN H. RAUCH, M. D., chairman of the Section.

SUMMARY OF INSTITUTIONS AND STUDENTS.

I—INSTITUTIONS.	Regular	Homoeopathic	Eclectic	Physio-Med	* Miscellaneous	Fraudulent	Totals
Total number of Medical Institutions embraced in this Report (a	169	24	34	8	4	13	252
— — in the United States	154	24	34	8	4	13	237
— — in Canada	15						15
Total number of Institutions now extinct	67	11	24	5	3	13	123
— — in the United States	64	11	24	5	3	13	120
— — in Canada	3						3
Total number of Institutions the diplomas or licenses of which had been presented to the ILLINOIS STATE BOARD OF HEALTH prior to the sessions of 1883-84 (b	91	15	10	3	2	11	132
— — in the United States	85	15	10	3	2	11	126
— — in Canada	6						6
Total number of such Institutions recognized by the BOARD prior to the sessions of 1883-84 (b.	91	15	4				110
— — in the United States	85	15	4				104
— — in Canada	6						6
Total number recognized conditionally prior to the sessions of 1883-84 (b			6	3	2		11
Total number of Colleges now in existence (c	102	13	10	3	1		129
— — in the United States	90	13	10	3	1		117
— — in Canada	12						12
Total number of Colleges the diplomas of which—sessions of 1885-86—have been presented to the ILLINOIS STATE BOARD OF HEALTH	48	7	3	2			60
— — in the United States	43	7	3	2			55
— — in Canada	5						5
Total number of such diplomas—sessions of 1885-86—accepted unconditionally (d	38	5	2	1			46
— — accepted conditionally (e	10	2	1	1			14

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* "Miscellaneous" includes hygeo-therapeutic and mixed schools or those claiming the appellation *regular*, but teaching either the homoeopathic or the eclectic system of materia medica and therapeutics, or both these systems.

Summary of Institutions and Students—Continued.

I—INSTITUTIONS.	Regular......	Homeopathic.	Eclectic	Physio-Med...	Miscellaneous.	Totals.........
Total number of Colleges which now exact certain educational qualifications as a condition of matriculation (*f*........................	88	13	10	2	1	114
—— —— which formerly exacted such qualifications (*f*..	41	4	......	......	......	45
Total number of Colleges requiring attendance on three or more courses of lectures as a condition of graduation (*f*	37	4	......	......	.....	41
—— —— which formerly required such attendance (*f*.....	21	1	......	......	......	22
Total number of Colleges which now recommend and provide for, but do not exact attendance on three or more courses (*f*..	38	5	4	1	......	48
—— —— which formerly made such provision and recommendation (*f*.....................	43	7	2	1	......	53
Total number of Colleges which now have chairs of hygiene (*f*..	87	12	8	2	1	110
—— —— which formerly taught this branch (*f*....	32	7	3	......	......	42
Total number of Colleges which now have chairs of medical jurisprudence (*f*..................	85	12	10	2	1	110
—— —— which formerly taught this branch (*f*....	49	8	4	......	......	61
Total number of Colleges which require a thesis as a condition of graduation.....................	36	4	3	......	1	44
Total number of Colleges for women only.................	6	1	......	.....	......	7
—— —— in the United States........................	4	1	......	......	......	5
—— —— in Canada.....	2	......	......	......	......	2
Total number of Colleges for both sexes..................	21	8	9	2	1	41
Total number of Colleges for colored students only....	2	......	......	......	......	2
—— —— for both white and colored students...	1	......	......	......	......	1

NOTES.—(*a*) "Total number of Institutions," includes five (5) examining and licensing bodies which do not give instruction; and four (4) schools which do not confer degrees.

b) "Prior to the session of 1883-4." refers to the status of Colleges before the adoption and publication of the Schedule of Minimum Requirements of the ILLINOIS STATE BOARD OF HEALTH.

c) "Total number of Colleges" does not include those specified in Note 1.

d) "Accepted unconditionally"—the Colleges issuing such diplomas having conformed to the Schedule of Minimum Requirements.

e) "Accepted conditionally"—that is, after an examination of the applicant in the branches or subjects of the Schedule omitted by the college.

f) "Now" and "formerly" have reference respectively to the periods before and since the enforcement of the Schedule of Minimum Requirements, namely, the close of the sessions of 1882-1883.—*See this Schedule ante, and the Requirements for Admission and other data pertaining to individual Colleges, for additional information.*

Summary of Institutions and Students.—Continued.

II—STUDENTS.	Regular...	Homeop...	Eclectic...	Phys.-Med	Miscell....	Totals and percentages...
Total number of Matriculates—sessions of 1881-82	10,737	1,162	946	60	....	12,905
— — — — — — 1882-83	10,905	1,204	909	52	18	13,088
— — — — — — 1883-84	10,816	1,131	738	52	26	12,763
— — — — — — 1884-85	10,233	1,032	598	54	58	11,975
— — — — — — 1885-86	10,624	1,062	591	47	14	12,338
— — in the United States—1881-82	10,075	1,162	946	60	....	12,213
— — — — — 1882-83	10,049	1,201	909	52	18	12,232
— — — — — 1883-84	10,050	1,131	738	52	26	11,997
— — — — — 1884-85	9,250	1,032	598	54	58	10,992
— — — — — 1885-86	9,556	1,062	591	47	14	11,270
— — in Canada—1881-82	662	....	....	....	....	662
— — — — 1882-83	856	....	....	....	....	856
— — — — 1883-84	766	....	....	....	....	767
— — — — 1884-85	983	....	....	....	....	983
— — — — 1885-86	1,068	....	....	....	....	1,068
Total number of Graduates—sessions of 1881-82	3,846	368	319	22	....	4,555
— — — — — — 1882-83	3,470	437	274	23	11	4,215
— — — — — — 1883-84	3,439	405	227	17	13	4,101
— — — — — — 1884-85	3,245	336	199	22	20	3,822
— — — — — — 1885-86	3,433	375	201	28	7	4,044
— — in the United States—1881-82	3,741	368	319	22	....	4,450
— — — — — 1882-83	3,306	437	274	23	11	4,051
— — — — — 1883-84	3,286	405	227	17	13	3,948
— — — — — 1884-85	3,078	336	199	22	20	3,655
— — — — — 1885-86	3,202	375	201	28	7	3,813
— — in Canada—1881-82	105	....	....	....	....	105
— — — — 1882-83	164	....	....	....	....	164
— — — — 1883-84	153	....	....	....	....	153
— — — — 1884-85	167	....	....	....	....	167
— — — — 1885-86	231	....	....	....	....	231
Percentages of Graduates to Matriculates—1881-82	35.8	31.6	33.7	36.6	....	33.5
— — — — — 1882-83	31.6	36.2	30.1	44.2	....	32.0
— — — — — 1883-84	31.7	36.0	30.7	32.6	....	32.1
— — — — — 1884-85	31.7	32.6	33.9	40.7	....	31.9
— — — — — 1885-86	32.3	35.3	34+	59.5	....	32.7
— in the United States—1881-82	34.6	31.6	33.7	36.6	....	31.6
— — — — 1882-83	32.6	36.2	30.1	44.2	....	32.9
— — — — 1883-84	32.8	36.0	30.7	32.6	....	33.0
— — — — 1884-85	33.3	32.6	33.9	40.7	....	33.2
— — — — 1885-86	33.5	35.3	34+	59.5	....	33.8
— in Canada—1881-82	14.6	....	....	....	....	14.6
— — — 1882-83	19.1	....	....	....	....	19.1
— — — 1883-84	19.9	....	....	....	....	19.9
— — — 1884-85	16.9	....	....	....	....	16.9
— — — 1885-86	21.6	....	....	....	....	21.6
Highest per cent. of Graduates, by States, in U. S.—1881-82	....	....	....	....	....	57.1
— — — — — — 1882-83	41.4	43.5	58.3	45.1	....	48.1
— — — — — — 1883-84	50.0	48.6	43.6	33.3	....	43.8
— — — — — — 1884-85	42.3	44.1	58.3	59.0	....	49.2
— — — — — — 1885-86	43.2	52.3	59.4	60.0	....	49.4
— — — — in Canada—1881-82	14.6	....	....	....	....	14.6
— — — — — — 1882-83	19.1	...	....	....	....	19.1
— — — — — — 1883-84	19.9	....	....	....	....	19.9
— — — — — — 1884-85	16.9	....	....	....	....	16.9
— — — — — — 1885-86	21.6	....	....	....	....	21.6

II—STUDENTS.	Regular....	Homeop...	Eclectic....	Phys.-Med.	Miscell....	Totals and percentages....
Lowest percent. of Graduates, by States, in U. S.—1881-82	......	......	......	......	.....	29.0
— — — — — — 1882-83	12 5	26.8	28.4	33.3	......	25.2
— — — — — — 1883-84	14.0	21.4	23.0	6.2	......	16.1
— — — — — — 1884-85	16.2	17.6	18 8	35.3	......	21.9
— — — — — — 1885-86	15.9	18.5	15.8	58.8	......	15.6
— — — — in Canada—1881-82	14.6	......	......	......	......	14.6
— — — — — — 1882-83	19 1	......	......	......	......	19.1
— — — — — — 1883-84	19.9	......	......	......	......	19.9
— — — — — — 1884-85	16 9	......	......	......	......	16.9
— — — — — — 1885-86	21 6	......	......	......	......	21.6
Highest percent. of Graduates, by individual Colleges, in the United States—1881-82	59.0	65.0	58.0	40.0	......	55 5
Highest percent. of Graduates, by individual Colleges, in the United States—1882-83	58.0	50 9	58.3	46.1	......	52.8
Highest percent. of Graduates, by individual Colleges, in the United States—1883-84	65.8	48.7	43 6	33.3	......	47.8
Highest percent. of Graduates, by individual Colleges, in the United States—1884-85	52.0	57.7	58.3	50.0	52.6	54.1
Highest percent. of Graduates, by individual Colleges, in the United States—1885-86	60.0	51 9	59 4	60.0	50.0	56.2
Highest percent. of Graduates, by individual Colleges, in Canada—1881-82	20.7	......	......	......	......	20.7
Highest percent. of Graduates, by individual Colleges, in Canada—1882-83	23.0	......	......	......	......	23.0
Highest percent. of Graduates, by individual Colleges, in Canada—1883-84	27.6	......	......	......	......	27.6
Highest percent. of Graduates, by individual Colleges, in Canada—1884-85	22.3	......	......	......	......	22.3
Highest percent. of Graduates, by individual Colleges, in Canada—1885-86	24.0	......	......	......	......	24.0
Lowest percent. of Graduates. by individual Colleges, in the United States—1881-82	9.6	20.0	33.0	33.3	......	24.0
Lowest percent. of Graduates, by individual Colleges, in the United States—1882-83	5.2	27.0	28.2	33.3	......	23.4
Lowest percent. of Graduates, by individual Colleges, in the United States—1883-84	13.6	18.1	19.7	32.2	......	20.9
Lowest percent. of Graduates, by individual Colleges, in the United States—1884-85	10.5	17.6	15.0	35.3	52.6	26.2
Lowest percent, of Graduates, by individual Colleges, in the United States—1885-86	7.7	18 5	20.2	58.8	50.0	31.0
Lowest percent. of Graduates, by individual Colleges, in Canada—1881-82	2.7	......	......	......	......	2.7
Lowest percent. of Graduates, by individual Colleges, in Canada—1882-83	6.6	......	......	......	......	6.6
Lowest percent. of Graduates, by individual Colleges, in Canada—1883-84	13.3	......	......	......	......	13.3
Lowest percent. of Graduates, by individual Colleges, in Canada—1884-85	3.1	......	......	......	......	3.1
Lowest percent. of Graduates, by individual Colleges, in Canada—1885-86	13.2	......	......	......	......	13.2

DURATION OF LECTURE-TERMS.

Schools.	Sessions.	Weeks.																								Total.
		15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	31	32	33	34	35	36	37	38	39	
Regular	1886-7	..	..	..	1	..	12	10	15	9	5	6	25	1	2	5	1	1	..	1	1	..	..	1	6	102
	1885-6	1	..	..	2	..	11	20	10	2	7	5	20	2	1	5	2	1	..	3	2	..	1	2	4	101
	1884-5	1	3	1	..	1	9	25	4	7	5	5	21	..	3	2	3	..	..	1	3	..	..	..	6	100
	1883-4	..	3	1	1	..	11	9	15	3	9	5	23	1	3	3	2	1	..	1	2	..	..	3	3	99
	1882-3	..	2	2	..	2	9	21	8	6	9	1	21	1	..	3	2	1	1	4	1	1	..	1	2	98
Homeopathic	1886-7	..	..	..	..	..	..	1	3	..	..	1	4	1	..	1	1	..	..	..	..	..	..	..	1	13
	1885-6	..	..	..	..	..	..	4	1	1	1	1	1	2	..	..	1	..	..	..		..	..	..	1	13
	1884-5	..	..	..	..	..	..	5	..	1	1	..	2	2	..	..	1	..	..	..	..	..	..	..	1	13
	1883-4	..	..	..	..	..	3	3	2	1	1	..	1	..	..	..	..	..	..	1		..	..	..	1	12
	1882-3	..	..	..	.	..	2	..	3	2	2	..	1	..	..	..	..	..	..	..	1	.	..	..	..	11
Eclectic	1886-7	..	1	..	..	..	4	2	.	..	..	..	3	..	..	..	.	..	..	..	..	..	..	..	..	10
	1885-6	..	1	..	..	..	5	3	..		..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	12
	1884-5	..	..	1	..	..	3	2	1	..	1	..	3	1	..	..	..	..	..	..	..	..	..	..	..	12
	1883-4	..	..	..	..	..	5	2	..	..	1	..	3	1	..	..	..	..	..	..	.	..	..	..	..	12
	1882-3	.	1	..	..	..	6	4	..	.	..	..	2	..	..	..	..	..	.	.	..	..	..	..	..	13
Physio-Medical	1886-7	..	..	..	..	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
	1885-6	..	..	..	..	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
	1884-5	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
	1883-4	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
	1882-3	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Miscellaneous	1886-7	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	1885-6	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
	1884-5	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
	1883-4	..	..	..	.	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
	1882-3	..	1	..	..	.	..	..	1	..	..	..	..	..	..	..	.	..	.	..	..	..	..	..	..	2
Totals	1886-7	..	1	..	1	..	17	13	20	9	6	7	32	2	2	6	2	1	..	1	1	..	.	1	7	129
	1885-6	1	1	..	2	..	18	28	12	3	9	6	24	4	1	5	3	1	..	3	2	..	1	2	5	131
	1884-5	1	3	2	1	1	12	33	5	9	8	5	26	3	3	2	4	.	..	1	3	..	..	..	7	129
	1883-4	..	3	1	1	..	19	15	19	4	12	5	27	2	3	3	2	1	..	2	2	..	..	3	4	128
	1882-3	..	4	2	..	2	17	26	12	8	11	1	24	1	.	3	2	1	1	4	2	1	..	1	2	126

	Weeks.
Average duration of lecture-terms, 1886-87	24.8
— — — — — 1885-86	24.4
— — — — — 1884-85	24.3
— — — — — 1883-84	24 5
— — — — — 1882-83	23.5
Average duration of lecture-terms—regular—1886-87	25+
— — — — — — 1885-86	25+
— — — — — — 1884-85	24.4
— — — — — — 1883-84	24.8
— — — — — — 1882-83	24.4
Average duration of lecture-terms—homeopathic—1886-87	26.3
— — — — — — 1885-86	25.2
— — — — — — 1884-85	25.2
— — — — — — 1883-84	24.0
— — — — — — 1882-83	23.7
Average duration of lecture-terms—eclectic—1886-87	21.6
— — — — — — 1885-86	21.4
— — — — — — 1884-85	22.5
— — — — — — 1883-84	22.5
— — — — — — 1882-83	20.9
Average duration of lecture-terms—physio-medical—1886-87	22.0
— — — — — — — 1885-86	22.0
— — — — — — — 1884-85	23.5
— — — — — — — 1883-84	22.5
— — — — — — — 1882-83	22.5

		Weeks.
Average duration of lecture-terms—miscellaneous—	1886-87	22.0
— — — — — —	1885-86	20.5
— — — — — —	1884-85	19 5
— — — — — —	1883-84	22.0
— — — — — —	1882-83	19.0

Sessions of	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.
No. of schools having terms of five months or more.	101	104	108	108	110
— — — — — — six — — —	42	49	50	52	55

The *following Tables show the number of Matriculates and of graduates, by schools of practice, in attendance at the Medical Colleges of each State and of the Domnion of Canada, during the last nine sessions*—1877-78 *to* 1885-86, *inclusive. The percentages of graduates to matriculates, by schools of practice, are also given. For the sessions of* 1882-83, 1883-84, 1884-85 *and* 1885-86, *these are so grouped, in the next table, as to afford a ready means of comparison.*.

I.—Matriculates and Graduates in each State, 1877-78 to 1885-86, inclusive.

States.	Schools....	Classes.....	Sessions.									Totals	Percent.....
			1877-8...	1878-9...	1879-80..	1880-1...	1881-2...	1882-3...	1883-4...	1884-85..	1885-6 ..		
Alabama	Reg ...	Matr ..	......	......	......	......	......	47	75	90	107	319	29.4
		Grad..	18	18	20	22	21	16	12	34	32	193	
Arkansas	Reg...	Matr ..	......	......	22	32	36	32	28	37	52	239	23 8
		Grad..	......	......	1	10	5	4	13	8	16	57	
California ...	Reg. ..	Matr ..	65	58	42	120	126	144	123	136	147	961	5.8
		Grad..	37	28	18	25	27	30	31	32	20	248	
	Hom ..	Matr ..	.....	......	......	......	......	......	23	17	21	61	37.7
		Grad..	......	......	......	......	......	......	7	5	11	23	
	Ecl ..	Matr ..	......	......	48	31	25	32	30	26	24	216	33.7
		Gard..	......	......	13	11	10	11	9	5	14	73	
Canada	Reg ...	Matr ..	351	434	423	535	662	856	766	983	1,068	6,078	19.5
		Grad..	64	107	96	103	105	164	153	167	231	1,190	
Colorado.....	Reg ...	Matr ..	......	......	......	......	15	21	30	37	31	134	24.6
		Grad.	......	......	......	......	5	5	5	6	12	33	
Connecticut.	Reg ...	Matr ..	58	60	32	26	21	32	43	27	26	325	23.4
		Grad..	10	16	12	10	2	7	7	6	6	76	
*D. Columbia	Reg ...	Matr ..	119	123	141	168	173	193	202	215	245	1,579	19.7
		Grad..	19	27	34	23	31	45	43	51	39	312	
Georgia......	Reg. ..	Matr ..	136	125	165	198	261	230	285	254	279	1,933	36.7
		Grad..	42	34	51	69	116	76	112	103	108	711	
	Ecl	Matr .	......	......	......	......	81	67	62	69	63	342	24.0
		Grad..	......	......	......	.....	24	18	17	13	10	82	

* The low percentage of graduates in the District of Columbia is owing mainly to the fact that a large number of the matriculates are government clerks, some of whom attend four or more courses of lectures, and, of necessity, do not devote their whole time to study; while others, after attendance at these schools, go elsewhere to graduate.

I.—*Matriculates and Graduates*—Continued.

States.	Schools	Classes	1877-8	1878-9	1879-80	1880-1	1881-2	1882-3	1883-4	1884-5	1885-6	Totals	Percent
Illinois	Reg	Matr	564	555	705	788	820	924	813	799	771	6,738	32.2
		Grad	185	164	195	234	247	295	284	277	291	2,172	
	Hom	Matr	272	307	281	282	392	422	393	379	357	3,085	38.2
		Grad	119	98	107	125	146	174	152	115	144	1,180	
	Ecl	Matr	139	106	124	127	113	147	159	143	122	1,179	34.6
		Grad	65	29	37	51	38	52	50	37	50	409	
	Ph.-M.	Matr	......	......	......	......	......	......	......	......	17	17	58.8
		Grad	......	......	......	......	......	......	......	......	10	10	
Indiana	Reg	Matr	37	179	279	286	251	227	115	118	123	1,615	40.5
		Grad	21	80	77	106	95	101	72	50	54	656	
	Ph.-M.	Matr	19	15	15	20	24	26	21	34	30	204	47.5
		Grad	8	7	8	10	10	17	7	12	18	97	
	Ecl	Matr	......	......	......	37	19	24	31	35	37	183	42.6
		Grad	......	......	......	12	11	7	10	16	22	78	
Iowa	Reg	Matr	82	293	392	415	424	292	282	240	235	2,655	35.6
		Grad	19	96	139	152	172	89	104	96	79	946	
	Hom	Matr	18	32	47	60	46	44	35	33	26	341	25.8
		Grad	1	3	9	16	15	12	12	10	10	88	
	Ecl	Matr	......	......	......	......	25	38	65	54	31	213	26.2
		Grad	......	......	......	......	7	8	16	15	10	56	
Kentucky	Reg	Matr	413	433	604	513	513	672	680	516	608	4,982	39.5
		Grad	158	169	232	228	241	231	246	219	244	1,968	
Louisiana	Reg	Matr	......	......	......	204	220	212	212	192	208	1,248	30.6
		Grad	......	......	......	41	56	73	70	64	78	382	
Maine	Reg	Matr	94	99	105	115	101	94	99	69	85	861	26.8
		Grad	25	31	22	30	28	28	33	14	20	231	
	Ecl	Matr	......	......	......	......	23	38	24	9	25	119	32.7
		Grad	......	......	......	......	3	14	7	10	5	39	
Maryland	Reg	Matr	165	211	336	328	392	392	633	675	616	3,753	37.9
		Grad	65	80	110	143	175	129	220	248	255	1,425	
Mas'chusetts	Reg	Matr	227	254	263	275	282	263	287	291	294	2,438	24.4
		Grad	47	70	45	60	88	84	65	65	70	594	
	Hom	Matr	160	149	127	110	110	109	97	94	97	1,059	26+
		Grad	43	35	35	26	29	30	34	26	18	276	

I.—*Matriculates and Graduates*—Continued.

States.	Schools	Classes.....	SESSIONS.									Totals.......	Percent.......
			1887-8 ..	1878-9...	1879-80..	1880-1...	1881-2..	1882-3...	1883-4...	1884-5..	1885-6...		
Michigan	Reg....	Matr..	296	329	468	380	500	479	474	456	441	3,823	29+
		Grad..	98	101	118	127	121	158	137	120	126	1,109	
	Hom...	Matr..	73	63	70	88	71	57	55	34	49	560	29.1
		Grad..	22	25	18	23	15	17	20	6	17	163	
Minnesota....	Reg....	Matr..	......	......	......	......	25	58	56	61	95	292	21.2
		Grad..	......	......	......	......	5	4	7	21	25	62	
Missouri......	Reg....	Matr ..	473	462	569	604	628	598	613	472	481	4,900	36.2
		Grad ..	161	159	192	226	250	230	212	172	173	1,775	
	Hom ..	Matr .	......	......	......	......	......	41	39	32	38	150	37.3
		Grad,	......	......	......	......	......	11	19	9	17	56	
	Ecl....	Matr ..	120	66	95	66	118	114	65	24	26	694	41 9
		Grad ..	78	36	42	22	40	38	15	14	6	291	
	Misc...	Matr ..	......	......	......	......	......	18	19	38	14	89	52.8
		Grad..	......	......	......	......	......	11	9	20	7	47	
Nebraska.....	Reg ...	Matr ..	......	......	......	......	33	30	35	56	51	205	25.3
		Grad..	......	......	......	......	8	9	7	14	14	52	
	Hom ..	Matr ..	......	......	......	......	......	......	17	11	9	37	29.7
		Grad .	......	......	......	......	......	......	3	4	4	11	
N. Ham'shire	Reg ...	Matr ..	88	80	78	91	76	80	40	52	55	640	36.7
		Grad..	23	26	29	43	28	40	18	13	15	235	
New York....	Reg ...	Matr ..	1,732	1,983	2,142	2,209	2,197	2,146	1,990	1,826	1,884	18,059	30.8
		Grad..	539	601	629	612	792	646	580	593	566	5,588	
	Hom ..	Matr ..	152	152	157	199	187	187	178	165	177	1,554	28.6
		Grad..	38	40	40	59	46	55	61	53	54	446	
	Ecl. .	Matr ..	107	138	172	249	270	224	96	45	74	1,375	24.6
		Grad..	26	24	32	64	86	62	19	11	15	339	
N. Carolina..	Reg ...	Matr ..	......	......	......	......	11	11	12	17	26	77	7.7
		Grad..	......	......	......	......	......	......	......	......	6	6	
Ohio..........	Reg....	Matr ..	779	401	910	566	933	924	816	717	693	6,739	36.4
		Grad..	285	166	310	197	390	319	282	254	255	2,458	
	Hom ..	Matr ..	106	108	130	219	208	197	156	136	137	1,397	39+
		Grad .	74	54	47	67	60	86	56	60	42	546	
	Ecl. ...	Matr ..	267	209	213	316	272	225	191	193	189	2,101	35.7
		Grad..	121	74	50	114	100	64	83	78	69	753	
Orogon,......	Reg....	Matr ..	25	32	27	31	29	28	24	23	20	239	32+
		Grad..	7	8	6	13	9	10	10	8	7	78	
Penna........	Reg. ..	Matr..	1,103	1,059	1,095	1,153	1,135	1,088	1,168	1,022	1,080	9,903	31.5
		Grad .	317	307	325	340	391	376	318	312	379	3,125	
	Hom ..	Matr. .	161	162	192	208	148	147	138	144	148	1,448	36.3
		Grad	52	61	75	83	57	52	41	48	58	527	

I.—Matriculates and Graduates—Continued.

States.	Schools......	Classes......	Sessions.									Totals......	Percent......
			1877-8...	1878-9...	1879-80..	1880-1...	1881-2...	1882-3...	1883-4...	1884-5	1885-6		
S. Carolina...	Reg ...	Matr.. Grad .	60 17	71 20	74 23	77 21	56 19	61 18	80 20	59 17	62 18	600 173	28.8
Tennessee...	Reg ...	Matr.. Grad .	143 3	154 8	460 201	169 67	589 298	504 211	444 186	461 169	544 208	3,468 1,351	38.9
Vermont.....	Reg ...	Matr.. Grad .	108 33	140 49	143 53	171 50	190 85	151 36	230 100	191 78	163 52	1,487 536	36+
Virginia......	Reg ...	Matr.. Grad .	 17	 21	 12	57 13	34 25	117 25	132 50	108 34	134 34	582 231	31.1
Totals.......	Reg ...	Matr . Grad .	7,118 2,240	7,484 2,389	9,445 2,950	9,511 2,995	10,737 3,846	10,905 3,470	10,816 3,439	10,233 3,215	10,624 3,433	86,873 28,007	32.2
	Hom ..	Matr.. Grad .	951 349	973 316	1,014 331	1,166 399	1,162 368	1,201 457	1,131 405	1,032 336	1,062 375	9,695 3,316	34.2
	Ecl	Matr.. Grad .	633 290	519 163	681 174	826 274	946 319	909 274	738 227	598 199	591 201	6,411 2,121	32.9
	Ph-M..	Matr.. Grad .	56 22	48 14	50 20	51 21	60 22	52 23	52 17	54 22	47 28	473 189	39.9
	Misc...	Matr.. Grad .	....	....	....	....	....	18 11	26 13	58 20	14 7	116 51	43.9
Grand Totals	Matriculates . Graduates....		8,758 2,901	9,021 2,882	11,190 3,475	11,557 3,689	12,905 4,555	13,088 4,215	12,763 4,101	11,975 3,822	12,348 4,041	103598 33684	32.4

II.—MATRICULATES AND GRADUATES—SESSIONS OF 1885-86, 1884-85, 1883-4, 1882-3, COMPARED.

Countries.	Sessions	Students.	Regular..	Homeo ..	Eclectic..	Ph-Med..	Miscell...	Totals and per cent.
United States......	1885-86	Matriculates ...	9,556	1,062	591	47	14	11,270
		Graduates. .	3,202	375	201	28	7	3,813
		Percent		35.3	34+	59.5	50.0	33.8
	1884-85	Matriculates ...	9,250	1,032	598	54	58	10,992
		Graduates......	3,078	336	199	22	20	3,655
		Percent	33 2	32.6	33.2	40.7	34.4	33 2
	1883-84	Matriculates ...	10,050	1,131	738	52	26	11,997
		Graduates......	3,286	405	227	17	13	3,948
		Percent	32.6	35.8	30.7	32.6	50.0	32.9
	1882-83	Matriculates ...	10,049	1,204	909	52	18	12,232
		Graduates......	3,306	437	274	23	11	4,051
		Percent	32.9	36.2	30.1	44.2	61.1	33+
Canada......	1885-86	Matriculates ...	1,068	....	....	....	....	1,068
		Graduates......	231	....	....	....	....	231
		Percent	21.6	....	....	....	....	21.6
	1884-85	Matriculates ...	983	....	....	... .	....	983
		Graduates... .	167	....	....	....	....	167
		Percent	16.9	.. ....	....	....	....	16.9
	1883-84	Matriculates ...	766	....	....	....	....	766
		Graduates......	153	....	....	....	....	153
		Percent	19.9	....	....	....	....	19.9
	1882-83	Matriculates ...	856	... .	....	....	....	856
		Graduates......	164	....	....	....	....	161
		Percent	19.1	....	....	....	....	19.1
Totals both Countries......	1835-85	Matriculates ..	10,624	1,062	591	47	14	12,338
		Graduates......	3,433	375	201	28	7	4,044
		Percent	32.3	35.3	31+	59 5	50.0	32.7
	1884-85	Matriculates ...	10,233	1,032	598	54	58	11,975
		Graduates......	3,245	336	199	22	20	3,822
		Percent	31.7	32.6	33.2	40.7	34.4	31.9
	1883-84	Matriculates ,..	10,816	1,131	738	52	26	12,763
		Graduates......	3,439	405	227	17	13	4,101
		Percent	31.7	35.8	30.7	32.6	50.0	32.1
	1882-83	Matriculates ...	10,965	1,204	909	52	18	13,088
		Graduates......	3,470	437	274	23	11	4,215
		Percent	31.8	36 2	30.1	44.2	61.1	32.1

II.—Matriculates and Graduates—Continued.

States.	Sessions	Students.	Regular..	Homeop..	Eclectic..	Ph.-Med.	Totals and percent..
Alabama.......	1885-86	Matriculates......	107	....	....	....	107
		Graduates	32	....	....	....	32
		Percent	30.0	....	....	....	30.0
	1884-85	Matriculates......	90	....	....	....	90
		Graduates	34	....	....	....	34
		Percent	37.7	....	....	....	37.7
	1883-84	Matriculates......	75	....	....	....	75
		Graduates........	12	....	....	....	12
		Percent	16.0	....	....	....	16.0
	1882-83	Matriculates.. ...	47	....	....	....	47
		Graduates........	16	....	....	....	16
		Percent	34+	....	....	....	34+
Arkansas...........	1885-86	Matriculates.. ...	52	....	....	....	52
		Graduates	16	....	....	....	16
		Percent	30.7	....	....	....	30.7
	1884-85	Matriculates......	37	... .	....	......	37
		Graduates	8	....	....	......	8
		Percent	21.6	....	....	......	21.6
	1883-84	Matriculates......	28	....	....	....	28
		Graduates	13	....	....	....	13
		Percent	46.4	....	....	....	46.4
	1882-83	Matriculates......	32	....	....	....	32
		Graduates	4	....	....	....	4
		Percent	12 5	....	....	....	12.5
California.................	1885-86	Matriculates......	147	21	24	....	192
		Graduates........	20	11	14	....	45
		Percent........	13 6	52.3	58 3	....	23.4
	1884-85	Matriculates.....	136	17	26	....	179
		Graduates	32	5	5	....	42
		Percent.	23 5	35.3	19 2	....	23.4
	1883-84	Matriculates......	123	23	30	... .	176
		Graduates	31	7	9	....	47
		Percent	25.2	30.4	30.0	....	26.7
	1882-83	Matriculates......	144	....	32	....	176
		Graduates	30	....	11	....	41
		Percent.........	20 8	....	34.3	....	23+
Colorado.................	1885-86	Matriculates.....	31	....	....	....	31
		Graduates	12	....	....	....	12
		Percent	38.7	....	....	....	38.7
	1884-85	Matriculates......	37	....	....	....	37
		Graduates	6	....	....	....	6
		Percent	16.2	....	....	....	16.2

II.—*Matriculates and Graduates*—Continued.

States.	Sessions	Students.	Regular.	Homeop.	Eclectic.	Ph-Med.	Totals and percent.
Colorado—*Cont.*	1883-84	Matriculates	30	....	....	....	30
		Graduates	5	....	....	....	5
		Percent	16.6	....	....	....	16.6
	1882-83	Matriculates	21	....	....	....	21
		Graduates	5	....	....	....	5
		Percent	23.8	....	....	....	23.8
Connecticut	1885-86	Matriculates	26	....	....	....	26
		Graduates	6	....	....	....	6
		Percent	23+	....	....	....	23+
	1884-85	Matriculates	27	....	....	....	27
		Graduates	6	....	....	....	6
		Percent	22.2	....	....	....	22.2
	1883-84	Matriculates	43	....	....	....	43
		Graduates	7	....	....	....	7
		Percent	16.2	....	....	....	16.2
	1882-83	Matriculates	32	....	....	....	32
		Graduates	7	....	....	....	7
		Percent	21.8	....	....	....	21.8
District of Columbia	1885-86	Matriculates	245	....	....	....	245
		Graduates	39	....	....	....	39
		Percent	15.9	....	....	....	15.9
	1884-85	Matriculates	215	....	....	....	215
		Graduates	51	....	....	....	51
		Percent	23.7	....	....	....	23.7
	1883-84	Matriculates	202	....	....	....	202
		Graduates	43	....	....	....	43
		Percent	21.2	....	....	....	21.2
	1882-83	Matriculates	193	....	....	....	193
		Graduates	45	....	....	....	45
		Percent	23.3	....	....	....	23.2
Georgia	1885-86	Matriculates	279	....	63	....	342
		Graduates	108	....	10	....	118
		Percent	38.7	....	15.8	....	34.5
	1884-85	Matriculates	254	....	69	....	323
		Graduates	103	....	13	....	116
		Percent	40.5	....	18.8	....	35.9
	1883-84	Matriculates	285	....	62	....	347
		Graduates	112	....	17	....	129
		Percent	39.9	....	27.4	....	34.2
	1832-83	Matriculates	230	....	67	....	297
		Graduates	76	....	18	....	94
		Percent	33+	....	27.0	....	31.6

II.—Matriculates and Graduates—Continued.

States.	Sessions	Students.	Regular..	Homeop..	Eclectic..	Ph-Med..	Totals and percent.
Illinois	1885-86	Matriculates	771	357	122	17	1,267
		Graduates	291	144	50	10	495
		Percent	37.7	40.3	49.9	58.8	39+
	1884-85	Matriculates	799	369	143	....	1,309
		Graduates	277	115	37	....	429
		Percent	34.6	31.1	25.8	....	32.7
	1883-84	Matriculates	813	393	159	....	1,365
		Graduates	284	152	50	....	486
		Percent	34.9	38.6	31.4	....	35.6
	1882-83	Matriculates	923	422	147	....	1,492
		Graduates	295	174	52	....	521
		Percent	31.9	41.2	35.3	....	34.8
Indiana	1885-86	Matriculates	123	....	37	30	190
		Graduates	51	....	22	18	94
		Percent	43.2	....	59.4	60.0	49.4
	1884-85	Matriculates	118	....	35	34	187
		Graduates	50	....	16	12	78
		Percent	42.3	....	45.7	35.3	41.7
	1883-84	Matriculates	145	....	31	21	197
		Graduates	72	....	10	7	89
		Percent	50.0	....	32.2	33.3	45.1
	1882-83	Matriculates	227	....	24	26	277
		Graduates	101	....	7	11	119
		Percent	44.4	....	29.1	42.3	32.8
Iowa	1885-86	Matriculates	235	29	31	....	295
		Graduates	79	10	10	....	99
		Percent	33.6	34.4	32.2	....	33.5
	1884-85	Matriculates	240	33	54	....	327
		Graduates	96	10	15	....	121
		Percent	40.0	30.3	27.7	....	37.0
	1883-84	Matriculates	282	35	65	....	382
		Graduates	104	12	16	....	132
		Percent	36.8	34.2	24.6	....	34.5
	1882-83	Matriculates	292	44	38	....	374
		Graduates	89	12	8	....	109
		Percent	30.4	27.2	42.1	....	32.6
Kentucky	1885-86	Matriculates	608	....	....	....	608
		Graduates	244	....	....	....	244
		Percent	40.1	....	....	....	40.1
	1884-85	Matriculates	546	....	....	....	546
		Graduates	219	....	....	....	219
		Percent	40.1	....	....	....	40.1

II. Matriculates and Graduates—Continued.

States.	Sessions	Students.	Regular..	Homeop..	Eclectic..	Ph-Med..	Totals and percent.
Kentucky—*Cont*......	1883-84	Matriculates.	680	... .	....	....	680
		Graduates........	246	....	....	....	246
		Percent.........	36 1	... .	....	....	36.1
	1882-83	Matriculates	672	....	....	....	672
		Graduates........	231	....	....	....	231
		Percent.........	34.3	.... ..	....	....	34.3
Louisiana.......	1885-86	Matriculates	208	....	....	....	208
		Graduates........	78	....	....	....	78
		Percent.........	37.5	....	....	....	37.5
	1884-85	Matriculates	192	....	....	....	192
		Graduates........	61	....	....	....	64
		Percent.........	33.3	....	....	....	33.3
	1883-84	Matriculates	212	....	....	....	212
		Graduates........	70	....	....	....	70
		Percent.........	33.0	....	....	....	33.0
	1882-83	Matriculates	212	....	....	....	212
		Graduates........	73	....	....	....	73
		Percent.........	34.4	....	....	....	34.4
Maine	1885-86	Matriculates	85	....	25	....	110
		Graduates........	20	....	5	....	25
		Percent.........	23 8	....	20.0	....	22.7
	1884-85	Matriculates	66	....	9	....	75
		Graduates........	14	....	10	... .	24
		Percent.........	21 2	....	111.0	....	32.0
	1883-84	Matriculates	99	....	24	....	123
		Graduates........	33	....	7	....	40
		Percent.........	33 3	....	29.1	....	32.5
	1882-83	Matriculates	94	....	38	....	132
		Graduates........	28	....	14	....	42
		Percent.........	29.7	....	36.8	....	31.9
Maryland.................	1885-86	Matriculates. ...	616	....	....	....	616
		Graduates.......	255	....	....	....	255
		Percent.........	41.3	....	....	....	41.3
	1884-85	Matriculates.....	675	....	....	....	675
		Graduates........	218	....	....	....	248
		Percent.........	36.7	....	....	....	36.7
	1883-84	Matriculates. ...	638	....	....	....	638
		Graduates........	220	....	....	....	220
		Percent.........	34.4	....	....	....	34.4
	1882-83	Matriculates.	392	....	....	....	392
		Graduates........	129	....	....	....	129
		Percent.........	32.8	....	....	....	32.8

II.—Matriculates and Graduates—Continued.

States.	Sessions	Students.	Regular .	Homœop...	Eclectic...	Ph-Med ..	Totals and percent..
Massachusetts...........	1885-86	Matriculates.....	294	97	....	....	391
		Graduates........	70	18	....	....	88
		Percent.........	23.8	18.5	....	....	22.5
	1884-85	Matriculates.	294	91	......	....	385
		Graduates	65	26	....	....	91
		Percent.........	22.1	28.5	....	....	23.6
	1883-84	Matriculates.	287	97	....	....	384
		Graduates........	65	34	....	....	99
		Percent........	22.6	35.0	....	....	25.7
	1882-83	Matriculates.	263	109	....	....	372
		Graduates........	84	30	....	....	114
		Percent.........	31.9	27.5	....	....	30.6
Michigan..................	1885-86	Matriculates.	441	49	....	....	490
		Graduates........	126	17	....	....	143
		Percent.........	28.5	31.7	....	....	29.1
	1884-85	Matriculates. ...	456	31	....	....	490
		Graduates........	120	6	....	....	126
		Percent.........	26+	17.6	....	....	25.7
	1883-84	Matriculates.	474	55	....	....	529
		Graduates........	137	20	....	....	157
		Percent.........	28.9	36.3	....	....	29.6
	1882-83	Matriculates. ...	479	57	....	....	536
		Graduates........	158	17	....	....	175
		Percent.........	32.9	29.8	....	....	31.5
Minnesota....	1885-86	Matriculates. ...	95	....	....	....	95
		Graduates........	25	....	....	....	25
		Percent.	26.3	....	....	....	26.3
	1884-85	Matriculates.	64	....	....	....	64
		Graduates........	21	....	....	....	21
		Percent.........	32.8	....	....	....	32.8
	1883-84	Matriculates.	56	... .	....	....	56
		Graduates.......	7	....	....	....	7
		Percent.........	12.5	....	....	....	12.5
	1882-83	Matriculates. ...	58	....	....	....	58
		Graduates.......	4	....	....	....	4
		Percent........	6.9	....	....	....	6.9
Missouri.....	1885-86	Matriculates......	481	38	26	....	545
		Graduates........	173	17	6	....	196
		Percent.........	35.9	44.1	23+	....	35.9
	1884-85	Matriculates	472	32	24	....	528
		Graduates........	172	9	11	....	195
		Percent.........	36.4	28.1	58.3	....	36.9

II.—Matriculates and Graduates—Continued.

States.	Sessions	Students.	Regular...	Homeop..	Eclectic...	Ph-Med...	Totals and percent..
Missouri—*Cont*	1883-84	Matriculates	613	39	65	....	717
		Graduates	212	19	15	....	246
		Percent	34.5	48.6	23+	....	34.3
	1882-83	Matriculates	598	41	114	....	753
		Graduates	230	11	38	....	279
		Percent	38.4	26.8	33 3	....	37.0
Nebraska	1885-86	Matriculates	51	9	....	....	60
		Graduates	14	4	....	....	18
		Percent	27.4	44.4	....	....	30.0
	1884-85	Matriculates	56	11	....	....	67
		Graduates	14	4	....	....	18
		Percent	25 0	36.3	....	....	26.8
	1883-84	Matriculates	35	17	....	....	52
		Graduates	7	3	....	....	10
		Percent	20.0	17.6	....	....	20.4
	1882-83	Matriculates	30	....	....	....	30
		Graduates	9	....	....	....	9
		Percent	30.0	....	....	....	30.0
New Hampshire	1885-86	Matriculates	55	....	....	....	55
		Graduates	15	....	....	....	15
		Percent	27 2	....	....	....	27.2
	1884-85	Matriculates	52	....	....	....	52
		Graduates	13	....	....	....	13
		Percent	25.0	....	....	....	25.0
	1883-84	Matriculates	40	....	....	....	40
		Graduates	18	....	....	....	18
		Percent	45.0	....	....	....	45.0
	1882-83	Matriculates	80	....	....	....	80
		Graduates	40	....	....	....	40
		Percent	50.0	....	....	....	50.0
New York	1885-86	Matriculates	1,884	177	74	....	2,135
		Graduates	566	54	15	....	635
		Percent	30.0	30.3	20.2	....	29.7
	1884-85	Matriculates	1,826	165	45	....	2,036
		Graduates	593	53	11	....	657
		Percent	32.4	32.1	24.4	....	32.2
	1883-84	Matriculates	1,990	178	96	....	2,264
		Graduates	580	61	19	....	660
		Percent	29.1	34.2	19.7	....	29.1
	1882-83	Matriculates	2,146	187	224	....	2,557
		Graduates	646	55	62	....	763
		Percent	30.1	29.4	27.7	....	29.8

II.—Matriculates and Graduates—Continued.

States.	Sessions	Students.	Regular.	Homeop.	Eclectic.	Ph-Med.	Totals and Percent.
North Carolina	1885-86	Matriculates	26				26
		Graduates	6				6
		Percent	23+				23+
	1884-85	Matriculates	17				17
	1883-84	Matriculates	12				12
	1882-83	Matriculates	11				11
Ohio	1885-86	Matriculates	693	137	189		1,019
		Graduates	255	42	69		366
		Percent	36.7	30.6	36.5		35,9
	1884-85	Matriculates	717	136	193		1 046
		Graduates	254	60	78		392
		Percent	35.4	34 1	40.4		37.4
	1883-84	Matriculates	816	156	190		1,162
		Graduates	282	56	83		421
		Percent	34.5	35.8	43.6		36.2
	1882-83	Matriculates	924	197	225		1,346
		Graduates	319	86	64		469
		Percent	34.5	43.5	28 4		34.8
Oregon	1885-86	Matriculates	20				20
		Graduates	7				7
		Percent	35.0				35.0
	1884-85	Matriculates	23				23
		Graduates	8				8
		Percent	31.7				34.7
	1883-84	Matriculates	24				24
		Graduates	10				10
		Percent	41.6				41.6
	1882-83	Matriculates	28				28
		Graduates	10				10
		Percent	35.7				35.7
Pennsylvania	1885-86	Matriculates	1,080	148			1,228
		Graduates	379	58			437
		Percent	35+	39.1			35.5
	1884-85	Matriculates	1,022	144			1,166
		Graduates	312	48			360
		Percent	30.5	33.3			30.8
	1883-84	Matriculates	1,168	138			1,306
		Graduates	348	41			389
		Percent	29.7	29 7			29.7

II.—Matriculates and Graduates—Continued.

States.	Sessions	Students.	Regular..	Homeop.	Eclectic..	Ph-Med..	Totals and percent.
Pennsylvania—*Cont*	1882-83	Matriculates......	1,088	147	....	....	1,235
		Graduates...... .	376	52	....	....	428
		Percent....	34.5	45.3	....	....	34.6
South Carolina............	1885-86	Matriculates......	62	....	....	....	62
		Graduates........	18	....	....	....	18
		Percent.........	29.0	....	....	....	29.0
	1884-85	Matriculates......	59	....	....	....	59
		Graduates........	17	....	....	....	17
		Percent.........	28.8	....	....	....	28.8
	1883-84	Matriculates......	80	....	....	....	80
		Graduates........	20	....	....	....	20
		Percent.........	25.0	....	....	....	25.0
	1882-83	Matriculates......	61	....	....	....	61
		Graduates........	18	....	....	....	18
		Percent.........	29.5	....	....	....	29.5
Tennessee................	1835-86	Matriculates......	544	....	....	....	544
		Graduates........	208	....	....	....	208
		Percent.........	38.2	....	....	....	38.2
	1884-85	Matriculates......	461	....	....	....	461
		Graduates........	169	....	....	....	169
		Percent.........	36 6	....	....	....	36.6
	1883-84	Matriculates......	444	....	....	....	444
		Graduates........	186	....	....	....	186
		Percent.........	41.8	....	....	....	41.8
	1882-83	Matriculates......	504	....	....	....	504
		Graduates........	211	....	....	....	211
		Percent.	41.8	....	....	....	41.8
Vermont....................	1885-86	Matriculates......	163	....	....	....	163
		Graduates........	52	....	....	....	52
		Percent.........	31.9	....	....	....	31.9
	1884-85	Matriculates......	191	....	....	....	191
		Graduates........	78	....	....	....	78
		Percent.........	40.8	....	....	....	40.8
	1883-84	Matriculates......	230	....	....	....	230
		Graduates........	100	....	....	....	100
		Percent.........	43.4	....	....	....	43.4
	1882-83	Matriculates......	151	....	....	....	151
		Graduates........	36	....	....	....	36
		Percent.........	23.8	....	....	....	23.8
Virginia..	1885-86	Matriculates......	134	....	....	....	134
		Graduates........	34	....	....	....	34
		Percent..... ..	25 3	....	....	....	25.3

II.—Matriculates and Graduates—Continued.

States.	Sessions	Students.	Regular..	Homœop.	Eclectic..	Ph-Med..	Totals and percent.
Virginia—*Cont*............	1884-85	Matriculates......	108	....	....	....	108
		Graduates........	34	....	....	....	34
		Percent.........	31.4	....	....	....	31.4
	1883-84	Matriculates......	132	....	....	....	132
		Graduates........	50	....	....	....	50
		Percent.........	37.8	....	....	....	37.8
	1882-83	Matriculates.....	117	....	......	....	117
		Graduates........	25	....	....	....	25
		Percent.........	21.3	....	....	....	21.3

MEDICAL COLLEGES.

OF THE

UNITED STATES AND CANADA-1765-1886.

EMBRACING the Titles: Locations: Addresses of Corresponding Officers: Organizations: Curricula of Study: Requirements for Admission and for Graduation: Fees: Number of Matriculates and of Graduates—of all Existing Medical Schools in the United States and Canada.

The Titles: Locations: Dates of Organization: Periods of Existence and other Historical Data—of all Extinct Medical Schools in the United States and Canada.

Arranged Alphabetically as to States, and Chronologically as to Dates of Organization.

ALABAMA.

THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

THE BOARD OF CENSORS of the Medical Association of the State of Alabama and the Board of Censors of the several County Medical Societies which are in affiliation with the Medical Association, act as the Board of Medical Examiners.* The Board of Censors of the Medical Association is composed of ten members, who are elected by the Association, and who control the County Boards of Censors. The latter are elected by the County Medical Societies, and are composed of five members each. Diplomas of medical colleges confer no right to practice in this State. Nothing does except the certificate of one of the Examining Boards, based upon actual examination of the applicants. The County Boards examine graduates of reputable medical colleges only; diplomas serving as a means for getting before the Board. The State Board alone examines non-graduates. Persons proposing to begin the study of medicine are examined by the County Boards of Censors in English grammar and literature, general and United States history, elements of arithmetic, geometry, inorganic chemistry and physics. The examinations are both oral and written. In 1885 the State Board of Medical Examiners received sixty sets of examination papers from the County Boards of Medical Examiners. Of these, two were from applicants for the study of medicine, one candidate was successful and one unsuccessful; fifty-eight were from applicants for the practice of medicine—fifty-one being successful and seven unsuccessful. One non graduate passed a successful examination.

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*In a number of counties there are no medical societies, and as a necessary consequence the law to some extent is inoperative.

MEDICAL COLLEGE OF ALABAMA.

MOBILE, Ala. GEO. A. KETCHUM, M. D., Dean, 7 N. Conception street.

ORGANIZED in 1859. Closed during the war and re-opened in 1868. There were no graduates during the years 1862-68, inclusive.

The faculty embraces eight professors, one assistant to the professor of obstetrics and diseases of women, three lecturers, one demonstrator, and one assistant demonstrator.

COURSE OF INSTRUCTION: The regular course of lectures for the session of 1886-87 commenced November 8, 1886, and continues until the 26th of March, 1887. A preliminary course began October 18, 1886. A three years' graded course is recommended, and provided for without cost as to lecture tickets for the third year.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and diseases of women and children, ophthalmology and otology, histology, hygiene, medical jurisprudence, clinical and genito-urinary surgery, and practical pharmacy. Examinations are held daily on the various lectures. Clinics at the hospital and the college dispensary.

REQUIREMENTS: For admission, none.

For graduation: 1) age, twenty-one years; 2) good moral character; 3) three years' study; 4) attendance on two full courses of lectures; 5) pass before the members of the faculty a satisfactory examination; 6) certificates of at least one course of practical anatomy or dissections.

FEES: Matriculation (annually), $5.00; lectures, including hospital, $75.00; dissecting, $10.00; graduation, $25.00.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentage of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	—	18	—
1878-79	—	20	—
1879-80	—	20	—
1880-81	—	22	—
1881-82	—	21	—
1882-83	—	16	—
1883-84	75	12	16
1884-85	90	34	37.7
1885-86	~~107~~ 110.	~~32~~ 32	30.0

Percentage of graduates to matriculates for the sessions reported, *twenty-eight*.

REMARKS: "Hereafter examinations by the professors on their several departments will be made at hours appropriated especially for the purpose. These examinations or quizzes having been adopted as a part of the course of instruction."

SOUTHERN UNIVERSITY, MEDICAL DEPARTMENT.

GREENSBORO, ALA.

ORGANIZED in 1872.—Extinct. Last session closed in 1880.

ARKANSAS.

MEDICAL DEPARTMENT, ARKANSAS INDUSTRIAL UNIVERSITY.

LITTLE ROCK, Ark. R. G. JENNINGS, M. D., Secretary of the Faculty.

ORGANIZED in 1879. First class graduated in 1880. Classes have graduated each subsequent year.

The faculty embraces fourteen professors and lecturers, and a demonstrator.

COURSE OF INSTRUCTION: Lectures begin the first Wednesday in October, and continue twenty weeks. Five lectures will be delivered daily during the six days of the week. "A voluntary graded course of three years has been established from the organization of this college."—but "students who prefer to continue their studies on the repetitional system can do so."

Lectures embrace practice of medicine, institutes and practice of surgery, obstetrics, diseases of women and children, general, descriptive and surgical anatomy, materia medica, therapeutics, hygiene, botany, institutes of medicine, clinical surgery, dermatology, medical chemistry, toxicology, ophthalmology, otology, diseases of the genito-urinary organs, physical diagnosis and clinical medicine, gynecology, meteorology and climatology.

REQUIREMENTS: For admission, "Applicants must be eighteen years of age and present a credible certificate of good moral character; a diploma of graduation from a good literary and scientific college or high school; a first-class grade teacher's certificate, or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy."

For graduation: 1) satisfactory evidence of good moral character; 2) age, twenty-one years; 3) a satisfactory certificate of having pursued the study of medicine for at least three years under a regular graduate or licentiate and practitioner in good standing; 4) attendance on two full courses of lectures, with thorough dissection of the whole body; 5) satisfactory examination; 6) thesis on some medical subject or a full report of any of the clinics. Two years and nine months are accepted in lieu of three years' study, if the three years will expire not later than three months after graduation.

FEES: Matriculation (paid once only), $5.00; lectures, $50.00; demonstrator, $5.00; hospital, $3.00; graduation, $25.00.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879-80	22	1	4.6
1880-81	32	10	1+
1881-82	36	5	14—
1882-83	32	4	12.5
1883-84	28	13	46.4
1884-85	37	8	21.6
1885-86	*52	16	30.7

Percentage of graduates to matriculates during the six years, *twenty-four.*

*Not including one graduate who matriculated.

CALIFORNIA.

COOPER MEDICAL COLLEGE.

SAN FRANCISCO, Cal. HENRY GIBBONS, Jr., M. D., Dean, 920 Polk street.

ORGANIZED in 1859 as the Medical Department of the University of the Pacific. Ceased to exist in 1864, but was revived in 1870, under the same name. In 1873 it became the Medical Department of the University College of San Francisco, and was given the specific designation of the Medical College of the Pacific. In 1882 the institution received its present name—The first class was graduated in 1860. No classes were graduated in the years 1865-69, inclusive. A class was graduated in 1870 and in each subsequent year.

The faculty embraces twelve chairs, two adjuncts, a demonstrator of anatomy, and a demonstrator of pathology.

COURSE OF INSTRUCTION: Three annual summer courses and one intermediate course are required to complete the curriculum. The regular course begins June 1, and ends October 30; the intermediate course begins January 11, and ends May 4. During the first year the student attends all didactic lectures, but gives special attention to descriptive anatomy, physiology, chemistry, surgery, microscopy and practice of medicine and is examined in these branches at the end of the term. In the second year all lectures and clinics must be attended, and examination in all branches are held at the close, those in descriptive anatomy, physiology and chemistry being final. All lectures and clinics must be attended during the third year, except lectures on chemistry and physiology, if examination in these has been successfully passed. Special attention must be given to clinics. Final examinations, written and oral, in the third year.

The principal branches taught are principles and practice of medicine; clinical medicine and diagnosis; surgery, surgical anatomy, clinical and operative surgery; descriptive and practical anatomy; microscopy and histology; pathology with practical illustrations; obstetrics, diseases of women and children; gynecology; theoretical and practical physiology; ophthalmology, otology didactic and clinical; chemistry; toxicology; materia medica and therapeutics; hygiene; insanity; medical jurisprudence; physical diagnosis; laryngoscopy.

REQUIREMENTS: For admission, eighteen years of age, an examination in English composition, physics, arithmetic and Latin rudiments (declension of nouns and grammar.) Graduates of literary, scientific, medical, or pharmaceutical colleges or universities in good standing, graduates of high schools, and applicants who have passed the examination for admission to any recognized literary college or university, or who hold first-grade certificates from any public school board, as properly qualified teachers, on producing proper evidence of the same, are admitted to matriculation without examination.

For graduation: 1) good moral character; 2) twenty-one years of age; 3) three regular courses of lectures; and the intermediate course preceding the student's last year; 4) two courses of clinical instruction; 5) one course of practical anatomy, dissecting the entire subject; 6) satisfactory thesis; 7) successful passing of all examinations.

Fees: Matriculation, paid but once, $5; lectures (three courses), $250; single course, $130; demonstrator, $10; graduation, $10. A charge of $25 is made for each intermediate course, which amount is credited upon the succeeding regular course fees.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1878	65	26	40
1879	58	15	26—
1880	42	7	17—
1881	59	9	15+
1882	67	12	18
1883	83	19	22.9
1884	80	16	20
1885	83	19	22.7
1886	86	12	13.9

Percentage of graduates to matriculates during the nine years, *twenty-one.*

MEDICAL DEPARTMENT, UNIVERSITY OF CALIFORNIA.

Toland Medical College.

San Francisco, Cal. Robert A. McLean, M. D., Dean, 603 Merchant street.

Organized in 1863 as the Toland Medical College. Became connected with the University of California in 1872.

The faculty embraces fourteen professors, five assistants, one curator, one demonstrator, and the dispensary staff.

Course of Instruction: "Three regular courses of lectures of nine months each, attended through three several years," are required. Students are also required to attend clinics regularly throughout the term. At the beginning of each session examinations are held to determine the progress of the student during the year past; his advancement depending on the result of such examination. The session of 1886 began March 1 and ended November 30.

Studies: First year—anatomy, physiology, chemistry, materia medica, chemical and physiological laboratory work and dissections. Second year—anatomy, physiology, medical chemistry, principles and practice of medicine, principles and practice of surgery, therapeutics, obstetrics, pathology, dissection and surgical and medical clinics. Third year—principles and practice of medicine, principles and practice of surgery, including operative and minor surgery with bandaging, therapeutics, hygiene and medical jurisprudence, ophthalmology and otology, obstetrics and gynecology, with special clinics, regional anatomy, physiology of the special senses, physiological chemistry and pharmacology, clinical medicine, surgery, etc

Requirements: For admission, an examination in English composition, arithmetic, geography and elementary chemistry.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three full years' study; 4) three regular courses of lectures; 5) successful passage on all subjects by written and oral examination; 6) practical anatomy during two sessions, and have dissected all parts of the cadaver.

Fees: Matriculation, $5; demonstrator, $10; first and second courses of lectures, $130 each; third course, free; graduation, $40.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1878	—	11	—
1879	—	13	—
1880	—	11	—
1881	61	16	26+
1882	59	15	25+
1883	61	11	18+
1884	43	15	34.81
1885	53	13	24.5
1886	51	8	15.6

Percentage of graduates to matriculates during the last five years, *twenty-three.*

CALIFORNIA MEDICAL SOCIETY AND COLLEGE OF PHYSICIANS.

SAN FRANCISCO, CAL.

INCORPORATED October 21, 1876.—Extinct, 1877.

CALIFORNIA MEDICAL COLLEGE (*Eclectic*).

OAKLAND, Cal. D. MACLEAN, M. D., Dean, 330 Sutter street, San Francisco.

ORGANIZED in 1879. The first class was graduated in 1880.

The faculty embraces nine professors and a demonstrator.

COURSE OF INSTRUCTION: One intermediate and one regular term annually. The regular or winter term commences on the first Monday in November (annually), and continues six months. The intermediate, or summer term, commences on the first Monday in June (annually), and continues twelve weeks. Three-years' graded course is recommended, but not required.

Lectures embrace principles and practice of medicine, obstetrics, surgery, anatomy, surgical anatomy, physiology, materia medica, chemistry, clinical and operative surgery, clinical medicine, therapeutics, pathology, gynecology, medical jurisprudence, clinical midwifery, diseases of children, clinical diseases of women, clinical diseases of children, mental diseases, hygiene, ophthalmology, otology, clinical diseases of the eye and ear, toxicology, physical diagnosis, laryngoscopy, diseases of the heart and lungs, and nervous diseases. Clinics at hospital and dispensary.

REQUIREMENTS: For admission, 1) certificate of good moral standing; 2) diploma from a high school, college or university, or a thorough examination in the branches of a good English education, including mathematics, English composition and elementary natural philosophy.

For graduation, 1) twenty-one years of age; 2) good moral character; 3) "such education as shall give him proper standing with the public and profession;" 4) three regular courses of lectures or two intermediate and two regular courses; 5) practical anatomy at least two sessions; 6) "satisfactory examination upon the essential points in the general practice of medicine;" 7) thesis.

FEES: Matriculation, $5; lectures, $120; demonstrator, $10; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879-80	48	13	27+
1880-81	31	11	35.5
1881-82	25	10	40
1882-83	32	11	34.4
1883-84	30	9	30
1884-85	26	5	19.2
1885-86	24	14	58.3

Percentage of graduates to matriculates for past seven years, *thirty-three.*

HAHNEMANN MEDICAL COLLEGE OF SAN FRANCISCO (*Homeopathic*).

SAN FRANCISCO, Cal. C. B. CURRIER, M. D., Dean, 921 Geary street.

ORGANIZED in 1884. Faculty embraces eighteen professors and a demonstrator of anatomy.

Course of Instruction: Graded, extending over three years. Session begins first Tuesday in May and continues six months.

Lectures embrace, first year—anatomy, physiology, chemistry, pharmacy, materia medica, histology, and minor surgery. Second year—anatomy, materia medica, chemistry, pharmacy, toxicology, theory and practice of medicine, diseases of throat and chest, obstetrics and surgery. Third year—same as second year with the exception that anatomy, chemistry, pharmacy and toxicology are omitted and the following studies added, viz: medical jurisprudence, hygiene and sanitary science, ophthalmology and otology, gynecology, dermatology and venereal diseases, mental and nervous diseases and diseases of children.

Requirements: For admission, applicants will be required to pass a satisfactory preliminary examination in the ordinary English branches, or present documentary evidence of such qualification. Candidates possessing a diploma of a literary, pharmaceutical, scientific college or high school, or holders of first-class teacher's certificates of any public school board, shall be admitted without examination.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three full courses of lectures; 4) certificate of having dissected every region; 5) satisfactory examination in each department.

Fees: Matriculation (once only), $5; lectures (three courses), $150; demonstrator, $10; graduation, $40.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1884	23	7	30.4
1885	17	5	29.3
1886	21	11	51.9

Percentage of graduates to matriculates for past three years, *thirty-seven.*

THE COLLEGE OF MEDICINE OF THE UNIVERSITY OF SOUTHERN CALIFORNIA.

Los Angeles, Cal. J. P. Widney, A. M., M. D., Dean of the Faculty.

Organized, November, 1883. The faculty embraces eighteen professors and one demonstrator.

Course of Instruction: Graded, extending over three years. Term commences the second Wednesday of October and continues to the third Wednesday of April. An intermediate term commences about the 1st of May and ends about the 1st of July. Attendance upon the intermediate term is not obligatory, except for the last year.

Lectures embrace principles and practice of medicine clinical medicine, principles and practice of surgery, clinical surgery, anatomy, surgical anatomy, histology and microscopy, materia medica and therapeutics, obstetrics, gynecology, physiology, chemistry and toxicology, pathology and diseases of the genito-urinary organs, diseases of the mind and nervous system, diseases of children, hygiene and diseases of the skin, ophthalmology and otology, and medical jurisprudence.

Requirements: For admission, the student must pass a matriculating examination, unless he is a graduate of some university, college, high school, academy or normal school, or holds a first-grade teacher's certificate for the public schools. The examination will cover English composition, and other ordinary English branches as taught in the public schools. An acquaintance with the rudiments of Latin will be required. If the applicant has never studied Latin, he will be allowed to make this up after commencing his medical studies.

For graduation: 1) twenty-one years of age and good moral character; 2) must have studied medicine three full years and attended three regular courses of medical lectures, the last of which must have been in this college, and he must have also attended the intermediate course of his last year; 3) must pass satisfactory examination, must have dissected the entire cadaver, done the necessary amount of laboratory and chemical work, and submit a satisfactory thesis.

Fees: Matriculation, $5; lectures (three courses), $260; demonstrator, $10; graduation, $10.

Students: Number of matriculates for session of 1885-86, *ten.*

CANADA.

Practitioners of medicine in Canada must be registered, and the requirements demanded vary in different provinces. The possession of the degree of Doctor of Medicine, granted by a recognized university, entitles its holder to registration in all the provinces, except Ontario. The curriculum of studies required of a university, in order that its degrees may be registered, is set forth in the following sections of the Quebec Medical Act, and are applicable, with slight changes, to all the provinces:

§ 8. From and after the passage of this act, no person shall be admitted as a student of medicine, surgery or midwifery, unless he shall have obtained a certificate of qualification from the said Provincial Medical Board. And no one shall be entitled to the license of the college, on presentation of a diploma, unless he shall have been previously admitted to the study of medicine, in accordance with the provisions of this act, or unless he shall have passed an equivalent preliminary examination before a college, school or board, authorized by law to require and cause such preliminary examinations to be passed in Her Britannic Majesty's possessions, elsewhere than in the Province of Quebec, and acceptable to the board created by this act. * * * The subjects of the preliminary qualifications to be English and French, Latin, geography, history, arithmetic, algebra, geometry, belles-letters, and any one of the following subjects: Greek, natural or moral philosophy; and the candidate to present a certificate of good moral character.

§ 15. The qualifications to be required from a candidate for obtaining a license, authorizing him to practice medicine, surgery and midwifery, shall consist in his holding a certificate of study from a licensed physician, for the period intervening between the courses of lectures which he has followed; that he is not less than twenty-one years of age; that he has followed his studies during a period of not less than four years, commencing from the date of his admission to the study of medicine by this board, and that, during the said four years, he shall have attended, at some university, college or incorporated school of medicine within Her Majesty's dominions, not less than two six-months' courses of general or descriptive anatomy, of practical anatomy, of surgery, of practice of medicine, of midwifery, of chemistry, of materia medica and general therapeutics, of the institutes of medicine, of physiology and general pathology, of clinical medicine and of clinical surgery; one six-months' course or two three-months' courses, of medical jurisprudence and of hygiene; one three-months' course of botany; one three-months' course, and a course of not less than twenty-five demonstrations, upon microscopic anatomy, physiology and pathology; also, that he shall have attended the general practice of a hospital in which are contained not less than fifty beds, under the charge of not less than two physicians or surgeons, for a period of not less than one year and a half, or three periods of not less than six months each; and that he shall also have attended six cases of labor, and compounded medicines for six months. And to remove all doubts with regard to the number of lectures which the incorporated schools of medicine of the Province of Quebec are bound to give, it is enacted and declared that each six-months' course shall consist of one hundred and twenty lectures, except in the case of clinical medicine, clinical surgery and medical jurisprudence. Of the four years' study required by this act, three six-months' sessions at least shall be passed in attendance upon lectures at a university, college or incorporated school of medicine recognized by this board, the first whereof shall be so passed the session immediately succeeding the preliminary examination, and the last during the fourth year of study, and the candidate shall undergo an examination, on the final subjects of the curriculum, at the end of the session in his fourth year of study.

It is optional in Quebec with the provincial board to accept or reject the degree of a university outside the province, and the test of an examination is sometimes imposed upon its holder.

In Ontario all, except registered practitioners of Great Britain, must pass an examination in the required branches before registration. The remainder of the provinces accept recognized university degrees without examination.

Graduates of United States medical schools, in order to register in a province of Canada, unless holding an academical degree, must 1) pass the matriculation examination; 2) attend a Canadian school one or more full winter courses, so as to complete the curriculum of the province; and 3) pass the professional examination.

Manitoba is an exception, the regulation there being as follows: "American students in medicine [meaning graduates of medical colleges in the United States] obtain a license by passing a practical examination satisfactory to the board on the following subjects, viz: Anatomy, physiology, theory and practice of medicine, surgery, midwifery and diseases of women and children; chemistry; materia medica and therapeutics; medical jurisprudence and toxicology." For this examination, and subsequent registration, a fee of $100 is charged,

Students attending Canadian colleges are subject to the following rules:

1. In the case of disorderly conduct any student may, at the discretion of the professor, be required to leave the class-room. Persistence in any offense against discipline, after admonition by the professor, shall be reported to the dean of the faculty. The dean may, at his discretion, reprimand the student, or refer the matter to the faculty at its next meeting, and may in the interval suspend from classes.

2. Absence from any number of lectures can only be excused by necessity or duty, of which proof must be given, when called for, to the faculty. The number of times of absence, from necessity or duty, that shall disqualify for the keeping of a session, shall in each case be determined by the faculty.

3. While in the college students are expected to conduct themselves in the same orderly manner as in the class-rooms.

4. When students are brought before the faculty under the above rules, the faculty may reprimand, impose fines, disqualify from competing for prizes and honors, suspend from classes, or expel from the college.

Ontario.

TORONTO SCHOOL OF MEDICINE.

(Affiliated with the University of Toronto and the University of Victoria College.)

TORONTO, Ont. H. H. WRIGHT, M. D., Secretary, corner Sherbourne and Gerrard streets.

ORGANIZED in 1843. Incorporated by act of parliament in 1851. Degrees were first conferred upon its students by affiliated universities, in 1845. Degrees have been so conferred each subsequent year.

Faculty embraces fourteen professors (lecturers), two adjunct professors and two demonstrators.

COURSE OF INSTRUCTION: Two sessions yearly; the winter term of 1886-87 began October 1, and will finish April 1, 1887; the summer term will begin May 1 and continue six weeks.

For curriculum of studies see section fifteen of the Quebec medical act as quoted above.

REQUIREMENTS: "The school does not exact any requirements as to matriculation, etc., and does not grant degrees. These matters it leaves entirely to the two universities with which it is affiliated, and to the medical council. [OLDRIGHT.

FEES: Lecture courses, each chair, $12, excepting anatomy, descriptive and surgical, $15; normal and pathological histology, each, $8; medical jurisprudence and chemistry, each, $6; and botany and hygiene, each, $5; registration, payable only once, $5; four optional studies, each, $5; summer session, $20.

TORONTO UNIVERSITY, MEDICAL FACULTY.

TORONTO, Ont.

ORGANIZED in 1843 as the Medical Faculty of King's College. Soon after its organization the name was changed to the Medical Faculty of the University of Toronto. The faculty was paid by the State. After an existence of ten years, the endowed chairs were abolished by an act of the legislature, and in 1852 the school became extinct.

TRINITY MEDICAL SCHOOL.

[Affiliated with the University of Trinity College, the University of Toronto and the University of Manitoba.]

TORONTO, Ont. W. B. GEIKIE, M. D., C. M., Dean, 324 Jarvis street.

ORGANIZED in 1850, as the Upper Canada School of Medicine, which, in its first session, became the Medical Faculty of Trinity College, and after an existence of four years ended by the resignations of the professors, who refused to submit to certain test enactments of a religious nature demanded by the corporation. In 1870 the Faculty of Medicine of Trinity College was reorganized, and it exists now as a separate corporation under the above title. The school confers the degree of "Fellow by Examination of Trinity Medical School," which is, "in every respect the equivalent of M. B., M. D., or M. D., M. C., at Trinity College." [GEIKIE.]

The faculty embraces ten professors, one lecturer and two demonstrators.

COURSE OF INSTRUCTION: The winter session of 1886-87, beginning October 1, 1886, continues for six months; the summer session begins May 1, and ends June 30, 1887. Four years' attendance is required for graduation.

Lectures embrace the principles and practice of medicine and surgery, materia medica, therapeutics, anatomy, obstetrics, diseases of women and children, chemistry, botany, sanitary science, medical jurisprudence, physiology, histology, pathology, ophthalmology, otology, laryngology. Three examinations are held during the course, viz: at the close of the first, second and fourth years.

REQUIREMENTS: Students are advised to pass the matriculation examinations of the Medical Council of Ontario, or those of the affiliated universities, before entering; but are allowed to attend lectures without any examination, though none such can obtain a degree. Students not matriculated elsewhere, and who desire to take the Fellowship Diploma, are required to pass an examination on the following subjects: 1) writing and dictation; 2) English language, including grammar and composition; 3) arithmetic; 4) algebra, including simple equations and Euclid, Latin, and either Greek, German, French or natural philosophy, history and geography.

For graduation: a) a recognized matriculation examination; b) four years' pursuit of medical studies; c) attendance on at least two full courses of lectures during either three or four winter sessions, and d) satisfactory examination in all required branches.

FEES: Registration, $5; lecture courses, each chair, $12, excepting practical anatomy, practical chemistry, normal and pathological histology, each, $8; medical jurisprudence, $6; hygiene and botany, each, $5; examinations, $15; summer session, $20; Toronto general hospital, $20; for perpetual ticket lying-in hospital, $5 per six months.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1878-79	137	35	25 5
1879-80	136	30	22+
1880-81	136	30	22+
1881-82	168	35	20.7
1882-83	205	38	18.5
1883-84	222	62	27.9
1884-85	260	58	22.3
1885-86	292	70	24

Percentage of graduates to matriculates for past eight years, *twenty-three.*

Remarks: The number of graduates given above includes, also, "men licensed by the Council."

MEDICAL DEPARTMENT OF VICTORIA COLLEGE.

(*Also known as "Rolph's School."*)

Toronto, Ont.

Organized in 1853.—Extinct since 1869.

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS.

(*Affiliated with Queen's University.*)

Kingston, Ont. Fife Fowler, M. D., L. R. C. S., Edin., President of the Faculty.

Organized as the Medical Faculty of Queen's University in 1854. First class graduated in 1855, and classes graduated in each subsequent year. Being separately incorporated, the college confers the diplomas of "Licentiate" and "Fellow." Its students obtain the degrees of M. D., and C. M., from the Queen's University, upon passing the required examination.

The faculty embraces nine professors and two demonstrators.

Course of Instruction: The winter session of 1886-87 began on the first Monday in October, 1886, and continues six months; the summer term begins on the 18th of April. The course of study is graded, covering four years, and fulfills the requirements of the provincial board. See excerpt from Quebec Medical Act.

Requirements: For admission, "Candidates for the degree of the university or the diploma of the college must have completed a period of four years' study, and passed the matriculation examination of Queen's college, which is as follows: English language, grammar and composition; arithmetic, with vulgar and decimal fractions; algebra, including simple equations; geometry, first two books of Euclid; Latin grammar and translation (Cicero, Cato Major, Virgil Æneid. Bk. I, 1-304; Ovid Fasti. Bk. I. 1-300;) natural philosophy, as in Stewart's Physics. [Graduates and matriculates in arts from any recognized university, and those who have passed the matriculation examination of the Medical Council of Ontario, are not required to pass the above matriculation examination.]

For graduation: 1) twenty-one years of age; 2) good moral character; 3) thesis; 4) certificates of attendance on the full course of instruction, as above, for four years, excepting graduates in arts and those who have passed a full year's pupilage in the office of a medical practitioner, of whom only three years' study is required; 5) evidence of having compounded medicines for a period of six months; 6) evidence of having attended six cases of midwifery. For the fellowship: 1) a degree in arts, or an equivalent examination; 2) evidence of having been engaged in the practice of the profession for five years.

Fees: Registration (payable once only), $5; tuition, per session, seven chairs, $12 each; five chairs, $5 each, and two chairs, $4 each; practical anatomy, $8; hospital, $4. For graduation: diploma of licentiate, $20; degree of M. D. and C. M., $30; fellowship of college, $50.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	48	10	20.8
1878-79	—	14	——
1879-80	—	12	——
1880-81	68	15	22+
1881-82	—	16	——
1882-83	48	11	23—
1883-84	105	14	13.3
1884-85	140	14	10
1885-86	160	36	22.5

Percentage of graduates to matriculates during the years reported in full, *seventeen.*

Names of matriculates not given in announcement.

MEDICAL DEPARTMENT OF THE WESTERN UNIVERSITY.

LONDON, Ont. WM. WAUGH, M. D., C. M., Registrar, 417 Ridout street.

ORGANIZED in 1882. First class graduated in 1883. Faculty embraces fifteen professors, one demonstrator of anatomy and one lecturer.

COURSE OF INSTRUCTION: One annual graduating session of six months' duration. The session of 1886-87 began October 1, 1886. The course is graded and extends over three years but a four years' course is recommended. Lectures embrace anatomy, physiology, materia medica, chemistry, botany, histology, toxicology, therapeutics, medical jurisprudence, sanitary science, pathology, theory and practice of medicine, theory and practice of surgery, midwifery and diseases of women and children, clinical medicine and clinical surgery, ophthalmology and otology and microscopy.

REQUIREMENTS: For admission, (a) certificate of graduation or matriculation in any recognized British university; (b) certificate of having passed the provincial examination; (c) matriculation examination on English language, arithmetic, algebra, geometry, Latin, writing and dictation. Correct spelling and legible writing are imperative.

For graduation: 1) certificate of having passed a recognized matriculation examination; 2) four years' study; 3) two sessions of six months each upon anatomy, practical anatomy, practice of medicine, surgery, theoretical chemistry, midwifery, diseases of women and children, materia medica, therapeutics, physiology, clinical medicine, clinical surgery; 4) one six months' course on medical jurisprudence; one three months' course on botany; twenty-five lectures on chemistry and toxicology; twenty-five practical demonstrations on histology and pathology; twenty lectures on sanitary science; 5) attendance for at least eighteen months on the practice of some recognized hospital; 6) six months' attendance on the practice of a lying-in hospital, and charge of six cases of confinement; 7) compounded medicines for six months; 8) good moral character; 9) twenty-one years of age.

FEES: Matriculation, $5; registration, $2; six chairs, $12 each; eight chairs, $6 each, and three, $5 each; practical anatomy, $10; hospital, $5; graduation, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-3	15	1	6.6
1883-4	19	—	——
1884-5	18	2	11.
1885-6	53	7	13.2

Percentage of graduates to matriculates for the years reported in full, *eleven*.

WOMAN'S MEDICAL COLLEGE.

(Affiliated with the University of Trinity College, Toronto.)

TORONTO, Ont. M. BARRETT, M. A., M. D., President, 201 Simcoe street.

ORGANIZED in 1883. The college does not confer degrees, but is intended for "the education of ladies in the science and practice of medicine so as to fit them to undergo the examinations of the College of Physicians and Surgeons of Ontario which are required for the provincial license, and for degrees in medicine in the several universities."

The faculty embraces thirteen professors and a demonstrator.

COURSE OF INSTRUCTION: One annual lecture term of six months' duration, beginning on the first of October, 1886, and continuing until April 1, 1887. The course is graded, and extends through three years.

Lectures embrace the principles and practice of medicine and surgery, obstetrics, diseases of women and children, materia medica, botany, anatomy, microscopy, sanitary science, medical jurisprudence, toxicology, chemistry, ophthalmology, otology and sanitary science.

REQUIREMENTS: For admission, certificate of having passed the matriculation examination of the provincial board. Graduates in arts, or students having matriculated in arts in any recognized university in Her Majesty's Dominions, are exempt.

For graduation: 1) four years' study; 2) four courses of lectures of six months duration; if a graduate in arts three courses; 3) two courses of six months each upon anatomy, dissection, physiology, histology, chemistry, materia medica, therapeutics, principles and practice of medicine and surgery; midwifery, diseases of women and children and clinical medicine and surgery; one six months' course on medical jurisprudence; one course of three months upon practical chemistry, toxicology, botany, pathology and hygiene; 4) dissect the whole human body; 5) six months' practice in compounding medicines; 6) twenty-four months' attendance on hospital; 7) six cases of midwifery.

Fees: For eight chairs, including practical anatomy, $12 each; normal histology, pathological histology, $8 each; medical jurisprudence, practical chemistry, clinical medicine and clinical surgery, $6 each; sanitary science, botany, $5 each. Registration, once only, $5. Third course on any branch, free.

KINGSTON WOMEN'S MEDICAL COLLEGE.

(Affiliated with Queen's University.)

Kingston, Ont. M. Lavell, M. D., President of the Faculty.

Organized in 1883. Degree of doctor of medicine conferred by Queen's University, upon passing the required examinations.

The faculty embraces eight professors, in addition to which two professors of Queen's College give instructions in chemistry and botany.

Course of Instruction: The session of 1886-87 began the first Monday in October, 1886. The course of lectures, which will continue for six months each session, "will be equivalent in all respects to the ordinary winter course delivered in other medical colleges, and as such will be accepted in proceeding to the degree of M. D. in Queen's University."

Lectures embrace obstetrics and diseases of women and children; principles and practice of surgery; materia medica and therapeutics; medical jurisprudence and sanitary science; theory and practice of medicine; physiology and histology; anatomy, descriptive and surgical; chemistry, botany, practical anatomy, clinical surgery, clinical medicine.

Requirements: For admission, "Before entering the student must decide where she intends to practice medicine. If in Ontario, then she should, before entering college, either pass the teacher's third-class certificate examination, with Latin included, or she should matriculate in arts in some university in Her Majesty's Dominions. If outside of Ontario, then she must, not later than the beginning of her second session, pass the matriculation examination of Queen's University, which includes English language, grammar and composition, arithmetic, algebra, geometry, Latin grammar, natural philosophy."

For graduation: "The requisites for graduation will in no sense differ from what is required for the other sex, and the facilities for study will also be the same. The degree of M. D. is conferred upon students who take lectures for four years and pass the requisite examinations."

Fees: Registration, once only, $5; seven chairs, $12 each; practical anatomy, $8; five chairs, $6 each; sanitary science and histology, $4 each. Except in practical anatomy, chemistry and botany, the third and subsequent courses in any branch, free.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	11	3	27.2
1884-85	14	2	14.2
1885-86	15	2	13.3

Percentage of graduates to matriculates, *seventeen.*

McGILL UNIVERSITY, FACULTY OF MEDICINE.

Montreal, Que. R. Palmer Howard, M. D., Dean, 47 Union avenue.

Organized in 1824 as the Montreal Medical Institution; became the Medical Department of McGill University in 1829. No class graduated during the Canadian Rebellion, 1837-40.

The faculty embraces fourteen professors, three demonstrators, three instructors, one lecturer, and one assistant each to the chair of chemistry and to chair of clinical surgery.

Course of Instruction: The complete course of study extends over four winter sessions of six months, and one summer session of three months in the third academic year. The collegiate year of 1886-87 began October 1, 1886, and the summer session will begin April 12, 1887.

The examinations at the end of each session are arranged as follows: First year, pass examination in histology and botany; sessional examination in anatomy, chemistry and physiology. Second year, pass examination in anatomy, chemistry, practical chemistry and physiology; sessional examination in pharmacology and therapeutics. Third year, pass examination in pharmacology and therapeutics, medical jurisprudence, hygiene and pathology. Fourth year, pass examination in medicine, surgery, obstetrics, clinical medicine and clinical surgery.

Requirements: For admission, see section eight of the Quebec Medical Act.

For graduation, see section fifteen of the Quebec Medical Act,—except that McGill requires attendance on lectures for four winter sessions of six months and one summer session of three months and examinations in clinical medicine and surgery are conducted at the bedside.

Fees: For first year, $69; for second year, $91; for third year, $97; for the fourth year, $65; hospital, $28; university matriculation, $5; graduation, $30; separate lecture course, $5 to $16.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	161	27	16+
1878-79	166	37	22+
1879-80	166	30	18+
1880-81	168	38	22.7
1881-82	151	27	17.5
1882-83	188	30	16—
1883-84	212	34	16+
1884-85	234	36	15.4
1885-86	237	46	19.4

Percentage of graduates to matriculates for past nine years, *eighteen*.

ECOLE DE MEDICINE ET DE CHIRURGIE.

(Affiliated with the University of Victoria.)

Montreal, Que. **L. D. Mignault**, A. B., M. D., C. M., Registrar, 155 rue Bleury.

Organized in 1843, and incorporated in 1845. Degrees were first conferred on its students in 1845. Degrees have been conferred each subsequent year.

The faculty embraces eleven professors, two lecturers and two demonstrators.

Course of Instruction: One annual session of six months duration, attendance, upon which is compulsory. Students are not received after the first month. The complete course extends over four years, but the law allows the student to spend the second or third year with a practitioner. An optional summer course of two months has been added.

Lectures embrace chemistry, pharmacy, toxicology, materia medica, therapeutics, midwifery, diseases of women and children, physiology, pathology, principles and practice of medicine and surgery, medical jurisprudence and toxicology, botany, hygiene, histology and ophthalmology.

Requirements: For admission, see section eight of the Quebec Medical Act.

For graduation, see section fifteen of the Quebec Medical Act.

Fees: Matriculation, $2; anatomy, physiology, obstetrics, chemistry and pharmacy, materia medica, pathology internal, pathology external, each chair $12. Clinical medicine, clinical surgery, botany, hygiene and practical anatomy, each $6; histology, $8; general hospital and maternity hospital, each $4; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	111		5.4
1882-83	——		——
1883-84	——	—	——
1884-85	155	26	16.7
1885-86	159	24	15+

Percentage of graduates to matriculates, for sessions reported, *thirteen*.

Note: "The school has added to its department a veterinary course."

ST. LAWRENCE SCHOOL OF MEDICINE.

Quebec, Que.

Organized in 1851.—Extinct, 1852.

LAVAL UNIVERSITY, MEDICAL DEPARTMENTS.

Quebec, Que. Arthur Vallee, M. D., Secretary, 22 rue Ste. Anne.

Montreal, Que. E. P. LaChappelle, M. D., Secretary, 132 rue Ste. Laurent.

Organized in 1852. The department in Quebec is the successor of the Quebec School of Medicine which was organized in 1848, and existed four years. The department in Montreal is known as a "Succursale," and was organized in 1878. The first class was graduated in 1855, and a class has been graduated each year since.

The faculty embraces twenty-six chairs, thirteen in each school.

Course of Instruction: One annual session of about thirty-five weeks' duration; attendance is compulsory; the course is graded and extends over four years.

Lectures are divided into two sections, primary and final. Primary—descriptive anatomy 240 lectures, practical anatomy 180 lectures, of two hours each, microscopical anatomy and histology 120 lectures, physiology 150 lectures, general pathology 80 lectures, hygiene 60 lectures, chemistry 240 lectures, botany 60 lectures; examination at the end of this course. Final section includes materia medica and general therapeutics 240 lectures, surgical, pathology and theoretical surgery 240 lectures, medical pathology and special therapeutics 240 lectures, toxicology 240 lectures, medical jurisprudence 60 lectures, toxicology 60 lectures, diseases of the eye and ear 60 lectures, practical operative surgery 40 lectures, clinical surgery 180 lectures, clinical medicine 180 lectures, clinical studies of the diseases of the eye and ear 60 lectures, clinical midwifery not less than six cases, clinical study of diseases of women and children; examination at the end of this course.

Requirements: For admission, see section eight of the Quebec Medical Act.

For graduation, see section fifteen of the Quebec Medical Act.

Fees: Annual fee, $54; diploma, $20.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877–78	70	15	21.4
1878–79	65	9	13.8
1879–80	56	16	28.5
1880–81	97	13	13.5
1881–82	104	12	11.5
1882–83	117	26	22+
1883–84	109	25	22.9
1884–85	85	22	25.8
1885–86	97	36	37.1

Percentage of graduates to matriculates for the past nine years, *twenty-one*.

UNIVERSITY OF BISHOP'S COLLEGE, FACULTY OF MEDICINE.

Montreal, Que. F. W. Campbell, M. A., M. D., Dean, 10 Phillips Place, Beaver Hall.

Organized in 1870. The first class was graduated in 1871, and a class has been graduated each year since.

The faculty embraces thirteen professors, one lecturer and a demonstrator of anatomy.

Course of Instruction: One annual session extending from October 5, 1886, to the end of March, 1887. The course is graded and extends over three years (a four years' course is advised) as follows: First year, anatomy, physiology, chemistry, materia medica, histology, botany, hygiene, dissections and clinics. Second year, same as first year except botany, hygiene and histology omitted and midwifery added. Third year, medicine, surgery, pathology, obstetrics, gynecology, medical jurisprudence, clinics. Fourth year, same as third, except pathology and medical jurisprudence omitted, and ophthalmology added.

Requirements: For admission, see section eight Quebec Medical Act.

For graduation, see section fifteen Quebec Medical Act.

Fees: Registration each session, $4; seven chairs, $12 each; one, $10; practical histology, $16; five chairs, $6; practical anatomy, $10; practical chemistry, $12; degrees (C. M., M. D.) $20; registration of degree, $5; hospitals, $44.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	43	10	23+
1878-79	30	9	30
1879-80	28	6	21.4
1880-81	31	5	16+
1881-82	55	6	10.9
1882-83	34	3	8.8
1883-84	39	10	25.8
1884-85	23	4	17.3
1885-86	23	4	17.3

Percentage of graduates to matriculates for the past nine years, *eighteen.*

Nova Scotia.

HALIFAX MEDICAL COLLEGE.

(Affiliated with Dalhousie University.)

HALIFAX, N. S. A. W. H. LINDSAY, M. D., Registrar, 241 Pleasant street.

ORGANIZED in 1867 as the Halifax School of Medicine, united the same year with Dalhousie University as its Medical Faculty, separately incorporated under its present title in 1876, affiliated with Dalhousie University in 1885. [See Medical Department, Dalhousie University.]

First class graduated in 1872, classes graduated in each subsequent year except 1873. [A letter from the Registrar announces that there was no class during the winter of 1885-86 and that no lectures will be given during 1886-87.] Being now affiliated with Dalhousie University the medical college refrains from conducting degree examinations or conferring degrees, both being left to the University.

Faculty embraces eight professors, six lecturers and instructors, and two demonstrators.

COURSE OF INSTRUCTION: One annual course of six months duration beginning in last week of October; attendance ascertained regularly and certified at end of session.

Lectures embrace principles and practice of medicine, clinical medicine, obstetrics, gynecology, principles and practice of surgery, clinical surgery, physiology, anatomy, dermatology, botany, diseases of children, practical chemistry, materia medica, therapeutics, microscopy, pharmacy, medical jurisprudence, toxicology, insanity and public hygiene.

REQUIREMENTS: For admission as an undergraduate, a) certificate of having passed the matriculation examination of the Nova Scotia Medical Board. Compulsory: English language, including grammar, composition and writing from dictation; arithmetic, including vulgar and decimal fractions and the extraction of the square root; algebra to the end of simple equations; geometry,—first three books of Euclid; Latin, one book,—translation and grammar. Elementary mechanics of solids and fluids. And one of the following optional subjects: History of England, with questions in modern geography. French translation: German translation: one Greek book; History of Nova Scotia; History of the Dominion of Canada. b) certificate of having passed either of the medical matriculation examinations of Dalhousie University. Exemptions: a degree in arts or science from any chartered university or college exempts from further preliminary examination. The matriculation, sessional and degree examinations of any regularly chartered university or college, and the preliminary examination of any medical licensing board authorized by law in Her Majesty's Dominions, are recognized *pro tanto*. Persons are also admitted as general students without any preliminary examination, but such attendance does not qualify for graduation.

For graduation: Students of the Halifax Medical College receive the degrees M. D., C. M., from Dalhousie University. For requirements, see Medical Department Dalhousie University.

FEES: Registration, annual $2.00 (or perpetual $5.00); matriculation examination (Nova Scotia Medical Board), $10.00; lectures, $12.00 each class, except practical anatomy, clinical medicine, clinical surgery, medical jurisprudence, $8.00 each, and practical chemistry, practical pharmacy, botany, $6.00 each.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	29	2	6--
1878-79	36	3	8+
1879-80	37	2	5.4
1880-81	35	2	5.7
1881-82	37	1	2.7
1882-83	41	3	7+
1883-84	34	5	11.7
1884-85	32	1	3.1

Percentage of graduates to matriculates, for eight years, *six.*

DALHOUSIE UNIVERSITY, FACULTY OF MEDICINE.

HALIFAX, N. S. GEO. LAWSON, Ph. D., LL. D , Secretary of the Senatus of the University.

ORGANIZED in 1867 with full teaching staff and maintained until 1876; incorporated as the Halifax Medical College in 1876.

REORGANIZED under its present title in 1885, mainly as an examining body. Teaching is provided in the University in chemistry and botany. In professional subjects students obtain instruction at the Halifax Medical College, which is affiliated with the University.

MATRICULATION EXAMINATIONS.—I. Candidates for medical degrees must give evidence of having obtained a satisfactory general education before entering upon the course of study qualifying for the degrees, by passing either one or other of the matriculation examinations of this faculty or some other examination recognized by the senate as sufficient.

II. The following are the subjects of the Lower Matriculation Examination: 1.) English language, including grammar and composition,—the examination being such as to test the ability of the candidate; 2) Latin including grammar, translation from specified authors and translation of easy passages not taken from such authors; 3) elements of mathematics, comprising *a*) arithmetic—including vulgar and decimal fractions; *b*) algebra—including simple equations; *c*) geometry—including the first book of Euclid or the subjects thereof; 4) elementary mechanics of solids and fluids, comprising the elements of statics, dynamics and hydrostatics,—as treated in Blaikie's Elements of Dynamics† (Thin. Edinburgh); 5) one of the following subjects: *a*) Greek, including translation* from the original and grammar; *b*) French, including translation* from the original and grammar; *c*) German, including translation* from the original and grammar; *d*) logic, as in Jevons' Elementary Lessons in Logic† (Macmillan & Co.); *e*) elementary chemistry; *f*) botany.

III. The following are the subjects of the higher matriculation examination: 1) English language, as in lower examination; 2) English History; 3) modern geography; 4) Latin; the subjects of the lower examination together with translation of easy English sentences into Latin prose. Text-book: Smith's Principia Latina,* Part IV, Exs. 1-35; 5) elements of mathematics, as in the lower examination; 6) elementary mechanics of solids and fluids, as in the lower examination; 7 and 8) any two of the following subjects: *a*) Greek; the subjects of the lower examination together with the translation of easy English sentences into Greek prose; *b*) French: the subjects of the lower examination together with translation of easy English sentences into French; *c*) German: the subjects of the lower examination together with translation of easy English sentences into German; *d*) natural philosophy: as in Balfour Stewart's Elementary Physics† (Macmillan & Co.); *e*) logic: Jevons' Elementary Lessons in Logic† (Macmillan & Co.).

IV. These examinations will be held on the 14th-18th of October, 1886, in the college library. They will be conducted by the instructors of the arts faculty. Persons who wish to appear as candidates are required to give notice to the secretary of the senatus at least fourteen days before the date of examination (stating in such notice whether they are candidates for the lower or higher examination, and specifying the elective subjects in which they wish to be examined), to enter their names in the register of candidates, and to pay a fee of ten dollars.

V. The lower examination satisfies the requirements of the General Medical Council of Great Britain as to the preliminary examination which must be passed by persons wishing to register as medical students; and as the examinations of this university are recognized by the council *pro tanto*, a certificate of having passed the above examination will enable the holder thereof to register as a medical student in Great Britain without further examination. The higher examination satisfies the requirements of the University of Edinburgh in the same respect. Certificates will be issued to candidates showing the subjects in which they passed and the extent to which their knowledge of these subjects was tested.

VI. A certificate of the possession of a university degree in arts or of having passed the matriculation examination of the Provincial Medical Board of Nova Scotia shall be considered by this university sufficient evidence of satisfactory general education.

DEGREE EXAMINATIONS —Candidates for the Degree of M.D., and C.M., shall be required to pass two examinations—the Primary and the Final M. D., C. M., examinations, and to have satisfied at the dates of the examinations certain conditions as to the attendance on classes, etc.

Primary M. D , C. M., Examinations.—I. Candidates for this examination shall be required to produce certificates to the following effect: 1.) of having passed the matriculation examination, or other examination recognized as sufficient, at least two academic years previously, and of having completed their sixteenth year at the date of passing said examination; 2.) of having, after passing the matriculation or other equivalent examination, attended the Halifax Medical College or in some school of medicine approved by the senate, two courses of 100 lectures each, in each of the following subjects, viz:—Anatomy, chemistry, materia medica, and physiology; and two courses of instruction of the same duration in practical anatomy, in the course of which they shall have dissected the whole body (*i. e.*, the head and neck and upper and lower extremities) at least twice; 3.) of having, after passing the matriculation examination, attended either in this university, in the Halifax Medical College, or in some other university or college approved by the senate, one course of instruction of fifty lessons each, in each of the following subjects, viz:—Botany and practical chemistry; 4.) either of having, after passing the matriculation examination, attended at the Halifax Medical College or at some college approved by the senate, one course of instruction of fifty lessons in practical pharmacy, or of having had three months' practice in the dispensing of drugs with a recognized apothecary or dispensing medical practitioner.

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*The following books are prescribed for October, 1885: In Greek, Xenophon's Anabasis, Book I, or Book VI; in French, Voltaire's Charles XII., Books I and II; in German, Adler's Reader, Zweiter Abschnitt, Nos. 14-17 (inclusive).

†These books are mentioned to show the extent of knowledge expected. Other books may of course be used by candidates.

II. Candidates shall be required to pass written and oral examinations in chemistry (including practical chemistry), botany, anatomy (including practical anatomy), physiology and materia medica (including practical pharmacy).

III. Candidates may appear for examination in botany one academic year after passing the matriculation examination on presentation of the certificates specified above so far as they apply to this subject.

IV. The Primary M D., C. M., examinations will be held in the third week of April. Candidates are required to transmit the certificates specified above to the secretary of the senate at least fourteen days before the date of the examination, to enter their names in the register of undergraduates of the university before the date of the examination, and to pay before the date of the examination half the amount of the graduation fee. Should the candidate fail to pass, the fee will not be returned to him, but he will be admitted to any one subsequent primary examination without fee.

Final M.D., C.M. Examination.—I. Candidates for this examination shall be required to furnish certificates to the following effect, viz: 1) that they have completed their twenty-first year or that they will have done so on or before the day of graduation. This certificate shall be signed by themselves; 2.) of having passed the primary M.D., C.M., examination at this university, or having passed the same examination at the Halifax Medical College prior to its affiliation with this university, or having been admitted to the standing of an under-graduate who has passed this examination on certificates from recognized medical schools; 3) of either (*a*) having attended during four academic years at least two courses of lectures per year in subjects of the primary and final M.D., C.M., examination either in this university or at the Halifax Medical College, or at some other recognized medical school, or (*b*) having spent one calendar year in the study of medicine in the office or offices of one or more registered medical practitioners, and having subsequently attended during three academic years courses of lectures as above; 4.) of having attended at least two courses of lectures during at least one academic year at the Halifax Medical College, and of having paid the fees for one course of lectures in each of the subjects of the M.D., C.M. examinations at that college; 5.) of having, after passing the matriculation examination, attended at the Halifax Medical College, or at some school of medicine approved by the senate, two courses of 100 lectures each in each of the following subjects, viz: Principles and practice of surgery, obstetrics and diseases of women and children, and principles and practice of medicine; two courses of lectures of fifty lectures each in each of the following subjects, viz: Clinical medicine and clinical surgery; and one course of fifty lectures in medical jurisprudence; 6.) of having, after passing the matriculation examination, attended during one calendar year the practice of the provincial and city hospital or that of some other hospital approved by the senate; 7.) of having attended at least six months the practice of a lying-in hospital, approved by the college, or of having attended at least six cases of midwifery under a recognized practitioner; 8.) of having obtained proficiency in the practice of vaccination under a recognized practitioner.

II. Candidates shall be required to pass written and oral examinations in the following subjects: Principles and practice of medicine, obstetrics and diseases of women and children, principles and practice of surgery, and medical jurisprudence. The oral examinations in medicine and surgery shall include clinical examinations conducted at the bedside, cases being submitted for diagnosis and treatment.

III. Candidates may appear for examination in medical jurisprudence alone, three academic years after passing the matriculation examination, on presentation of the certificates specified above so far as they apply to this subject.

IV. This examination will be held in the third week of April. Candidates are required to transmit the certificates specified above to the secretary of the senate at least fourteen days before the date of the examination, to enter their names in the register of undergraduates before the date of the examination, and to pay on registration one-half of the amount of the graduation fee. Should the candidate fail to pass, the fee will not be returned to him; but he will be admitted to any one subsequent final examination without fee.

FEES: The following fees, payable by candidates for the degree of M.D., C.M., in all cases payable in advance: Registration fee, $2; matriculation examination fee, $10; chemistry class fee, $13; chemistry laboratory fee (three months' course), $6; botany class fee, $6; graduation fee, $20.

STUDENTS: Number of matriculates for 1885-86—*four*.

Manitoba.

MANITOBA MEDICAL COLLEGE.

(*Affiliated with the University of Manitoba*)

WINNEPEG MA. JAMES KERR, M. D., M. Ch., Dean of the Faculty.

ORGANIZED in 1883. The faculty embraces thirteen professors, one demonstrator, and one lecturer.

Course of Instruction: One yearly session; that of 1886-87, began October 1, 1886, and will continue for six months.

Lecture embrace principles and practice of medicine, principles and practice of surgery, obstetrics, diseases of women and children, anatomy, descriptive, surgical and practical, physiology including histology, chemistry and chemical physics, materia medica and therapeutics, sanitary science, medical jurisprudence and toxicology, clinical surgery, clinical medicine, ophthalmology and otology, and botany.

A fellowship degree is granted.

Requirements: "Every student who desires to present himself for the Fellowship Diploma must have passed a recognized matriculation examination, and spent four years in pursuit of medical studies and attended two full courses of lectures during either three or four winter sessions."

Fees: Registration, $5; seven chairs, each, $12; five chairs, each, $6; botany, $5; practical anatomy, $8; examinations, each, $5; for final examination, when the previous examinations have been passed in some institution recognized by the college, $15.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	15	—	—
1884-85	22	—	—
1885-86	28	6	21.4

Percentage of graduates to matriculates for past three years, *nine.*

COLORADO.

UNIVERSITY OF DENVER, MEDICAL DEPARTMENT.

Denver, Col. H. K. Steele, M. D., Dean, Steele Block.

Organized in 1881. First class graduated in 1882.

The faculty embraces twelve professors, four lecturers and a demonstrator.

Course of Instruction: The sixth annual session began on the first Wednesday of October, 1886, and closes the last Wednesday of March, 1887. The course "is divided into three series, and extends over three consecutive and annual courses of lectures." The junior, or first-year course, embraces anatomy, physiology, histology, materia medica, therapeutics and chemistry. Middle, or second-year course, embraces anatomy, physiology, principles and practice of medicine, principles and practice of surgery, obstetrics and diseases of children, general pathology and pathological anatomy, materia medica and therapeutics, hygiene and medical chemistry. Senior, or third-year course, includes principles and practice of medicine and clinical medicine, principles and practice of surgery and clinical surgery, medical and surgical diseases of women and clinical gynecology, obstetrics, clinical obstetrics and diseases of children, ophthalmology and otology, miscroscopy, medical jurisprudence, diseases of the chest and climatology, laryngoscopy, physical diagnosis, nervous and mental diseases of the genito-urinary organs, and hygiene.

Requirements: For admission, "An entrance examination will be required of all applicants for admission to the school who are not able to present a diploma from a high school or college or a certificate of proficiency from some well recognized teacher. In this examination especial attention will be paid to writing, spelling and composition."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years, study; 4) two full courses of lectures; 5) satisfactory examination in the seven principal branches of medical science.

Fees: Matriculation, $5; lectures, $75; demonstrator, $5; dissecting material, at cost; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	12	5	33+
1882-83	21	5	23.8
1883-84	22	5	22.7
1884-85	18	4	22.2
1885-86	26	10	38.4

Percentage of graduates to matriculates for past five years, *twenty-nine.*

MEDICAL DEPARTMENT, UNIVERSITY OF COLORADO.

BOULDER, Col. JAMES H. KIMBALL, M. D., Denver, Col., Secretary of the Faculty.

ORGANIZED in 1883. The faculty embraces seven professors.

COURSE OF INSTRUCTION: Graded, and extends over a term of three years, with a session of nine months in each year. Session of 1886-87 began September 8, 1886, and will end June 2, 1887.

Studies embrace: First year, anatomy and dissection, chemistry, physiology, histology, materia medica, therapeutics and botany. Second year, first year's studies except botany and pathology, practice of medicine, surgery and obstetrics. Third year, practice of medicine, surgery, obstetrics, diseases of woman, diseases of children, ophthalmology, otology, clinical medicine and surgery, clinical gynecology, hygiene and public health and medical jurisprudence; oral examinations precede each lecture and clinic.

REQUIREMENTS: For admission, a literary or scientific degree, a high-school diploma, or the candidate will be required to write, in the presence of the examiner, a satisfactory application for admission, containing an account of his educational opportunities and acquirements and further undergo a thorough examination in the branches of a good English education, including mathematics and natural philosophy. Students will be admitted to advanced standing upon passing successful examinations.

For graduation: 1) twenty-one years of age; 2) a good moral character; 3) oral and written examinations satisfactory to the faculty; not less than three full years of study, including time spent with preceptor and attendance upon clinics at hospital, and lectures which shall consist of not less than three full courses.

FEES: Matriculation, $5; graduation and diploma, $10; tuition free.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	8	—	—
1884-85	19	2	10.5
1885-86	5	2	40

Percentage of graduates to matriculates for the past three years, *twelve*.

REMARKS: The three years' course is not obligatory, as the student is allowed to present himself for examination at the end of any collegiate year, which being satisfactory, the degree of Doctor of Medicine will be given, provided three years have been passed in study under a preceptor, with attendance on two full courses of lectures. By provision of the law for the government of the University, both sexes are received upon equal terms.

Connecticut.

MEDICAL DEPARTMENT OF YALE COLLEGE..

NEW HAVEN, CONN. HERBERT E. SMITH, M. D., Dean of the Faculty.

ORGANIZED in 1810, as the Medical Institution of Yale College. In 1879 a new charter changed the title to the Medical Department of Yale College.

The faculty consists of nine professors, and one assistant professor and demonstrator of anatomy, eight lecturers and one assistant in chemistry.

COURSE OF INSTRUCTION: Graded, extending through three years and consisting of three lecture terms annually; the first commences the first Thursday in October and continues eleven weeks; the second begins three weeks after the close of the first and continues twelve weeks; the third begins in April and continues eleven weeks.

Lectures embrace, in the first year, general chemistry, qualitative analysis; physiological chemistry and toxicology; anatomy, dissections; normal histology; physiology. The second year, anatomy, dissections; physiology; pathology; materia medica and therapeutics; theory and practice of medicine; clinical medicine; obstetrics; surgery; clinical surgery. Third year, pathology; theory and practice of medicine; physical diagnosis; clinical medicine; surgery; clinical surgery; obstetrics; diseases of women and children; ophthalmology; medical jurisprudence; insanity; nervous diseases; diseases of the skin; bacteriology; sanitary science and public health.

REQUIREMENTS: For admission, excepting graduates in medicine and those who have passed an examination for admission to Yale College or some similar institution, candidates must present a degree in letters or science from a recognized college or scientific school or pass a written examination in mathematics (algebra to quadratics, two books of Euclid, metric system of weights and measures) and physics (Balfour Stewart's or any equivalent elementary work) These entrance examinations are also held in Chicago, Cincinnati and San Francisco, on the Thursday following the June commencement. "Students not fully prepared are admitted on condition that the deficiency be made up within a reasonable time." Students of any recognized medical school or of private preceptors of good standing, "may present themselves for examination three weeks before commencement and enter the examinations of the first one or two years, as they see fit"—the result of such examination determining their admission.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years medical study, "two of which must have been in a recognized medical college and the last of which must have been at this school;" and 4) pass the required examinations in all the studies of the three years' course satisfactorily to the board of examiners. This board consists of the faculty.

FEES: Matriculation (paid once only) $5; tuition for one year, $125; for the third year to those who have paid for and attended two full courses, $75; graduation, $30; anatomical material, $5 a part.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	58	10	17+
1878-79	60	16	26.6
1879-80	32	12	37.5
1880-81	26	10	42+
1881-82	21	2	9.5
1882-83	32	7	21.9
1883-84	43	7	16.3
1884-85	27	6	22+
1885-86	26	6	23+

Percentage of graduates to matriculates for the past nine years, *twenty-three.*

Names of matriculates and graduates not given in announcement.

DAKOTA.

AN ACT establishing Territorial and County Boards of Health, and providing for the Protection of the Health of Persons and Animals.

Be it enacted by the Legislative Assembly of the Territory of Dakota:

SEC. 1. TERRITORIAL BOARD, OF WHOM COMPOSED.] That there is hereby established a Territorial Board of Health of the Territory of Dakota, composed of a president, vice-president and superintendent of public health. The Attorney General of said Territory shall be *ex-officio* president of said board. The Governor shall appoint some suitable person, resident of this territory, vice-president, and he shall also appoint, by and with the advice and consent of the council, said Superintendent of Public Health, who shall be learned in medicine, a graduate of some medical college recognized by the American Medical Association, and a resident of this Territory, and the several persons thus appointed shall hold their offices for two years, and until their successors are elected and qualified.

§ 2. DUTIES OF OFFICERS.] The president of said board shall preside at the meetings thereof, and the vice-president shall perform the duties of president in his absence. The Superintendent of Public Health shall be *ex-officio* secretary of said board. He shall keep a record of all proceedings of the Territorial Board of Health, and of his own acts as such superintendent, and he shall perform such other duties as are prescribed by this act, or may be prescribed by the territorial board of health. The records kept by said superintendent shall be by him at all times kept open to the inspection of the public.

§ 3 MEETINGS.] The several persons composing said Territorial Board of Health shall meet at the capital of said Territory on the —— day of April, 1885, and they shall thereafter meet as often as once in every six months, at such place in said Territory as they may from time to time appoint.

§ 4. POWERS AND DUTIES.] Said Territorial Board of Health shall have power, and it shall be their duty:

1. To fix the time and place of the meeting of said board, subject only to the provisions of section three of this act.

2. To make rules and regulations for the government of said board, its officers and its meetings.

3. To make and enforce any and all needful rules and regulations for the prevention and cure, and to prevent the spread of any contagious, infectious or malarial diseases among persons and domestic animals.

4. To establish quarantine, and isolate any person affected with contagious or infectious disease.

5. To isolate, kill or remove any animal affected with contagious or infectious disease.

6. To remove or cause to be removed any dead, decaying or putrid body, or any decayed, putrid or other substance that may endanger the health of persons or domestic animals.

7. To condemn and cause to be destroyed any impure or diseased article of food that may be offered for sale.

8. To superintend the several boards of health in cities, villages and towns, and the county boards of health of the several counties.

9. To empower and direct the Superintendent of Public Health to do or cause to be done any or all the things mentioned in subdivisions four, five, six, seven and eight, of this act.

§ 5. Salary, Etc., of Superintendent.] The Superintendent of Public Health shall be paid a yearly salary of five hundred dollars, in equal installments, at the end of every three months. He shall also be paid five cents per mile for every mile actually and necessarily traveled in the performance of his official duties, and such other sum or sums as he may necessarily pay or become liable to pay for the official books, records and papers kept by him, and for the printing of his reports, and such circulars and blanks as may be required for the proper conduct of the business of his office, not to exceed in the aggregate the sum of three hundred dollars. The accounts of the Superintendent for his mileage and other expenses of his office shall be audited by said Territorial Board of Health, and the same together with his salary shall be paid out of the Territorial treasury.

§ 6. Certain Expenses Allowed.] The president and vice-president of the said Territorial Board of Health shall receive no compensation for the performance of their official duties, but they shall be paid five cents for every mile actually and necessarily traveled, and such other necessary expenses as they may pay or incur in attending the meetings of said board, or in the performance of their duties as such officers.

§ 7. County Board.] At the first meeting of said Territorial Board of Health, they shall appoint two persons from each county, residents thereof, who, with the district attorney of the county from which they are appointed, shall constitute a county board of health for such county. The district attorney shall be the president of such county board of health. One of the persons so appointed from each county shall be learned in medicine, and shall hold a license to practice medicine from the Superintendent of Public Health, who shall be superintendent of health in the county for which he is appointed. The other person so appointed by said board from such county shall be vice-president of the county board of health.

§ 8. Duties of Officers.] The president of each county board of health shall preside at the meetings thereof, and in his absence the vice-president shall perform the duties of president. The county superintendent of health be *ex-officio* secretary of the board of health of his county. The said county superintendent of health shall keep a record of all the proceedings of such board, and of his official acts, and he shall, at the end of every month, make a full report in writing to the Superintendent of Public Health of the proceedings of the county board of health and of his official acts, and shall, whenever danger to the health of persons or domestic animals is threatened, or whenever any contagious or infectious disease occurs in his county, either among persons or domestic animals, immediately report the same to the Superintendent of Public Health.

§ 9. Meetings.] The several county boards of health shall meet at the county seat in their respective counties, at such time within thirty days after the appointment of the county superintendent of health as he may designate. Notice of the time and place of such meeting shall be by him given to the other members of said county board, at least five days prior to such meeting, and thereafter said county board of health shall meet at the county seat as often as once in every three months.

§ 10. Powers and Duties.] The several county boards of health shall have power within their respective counties, subject to the supervisory control of the Territorial Board of Health, and the Superintendent of Public Health, to do and perform all the things mentioned in subdivisions three, four, five, six, seven and eight, of section four of this act; all expenses actually and necessarily paid or incurred by the county boards of health in carrying out the provisions of this act shall be audited by said board, and certified to the county commissioners of the county where such expenses are incurred, and shall be paid the same as other county expenses are paid.

§ 11. Powers of Superintendent.] The county superintendent of health shall have charge of and superintend, subject to the approval of the board of which he is a member, and the supervisory control of the Territorial Board of Health and Superintendent of Public Health, all the matters and things mentioned in subdivisions four, five, six and seven of section four of this act, within his county, and in case of immediate danger to the health of persons or of domestic animals, he may act as in his judgment he may deem best without consultation with the other members of the county board of health, for the prevention of such danger, and he shall immediately report such action to the president of the county board of health, and to the Superintendent of Public Health.

§ 12. Compensation.] The president of the county board of health shall receive no other compensation than that which is provided for; shall receive five cents for every mile actually and necessarily traveled in the performance of his duties as a member of said board. The county superintendent of health shall receive five dollars per day for every day in which he may be actually and necessarily engaged, and five cents per mile for every mile actually and necessarily traveled in the performance of his duties, and he shall also receive such other sum or sums as he may necessarily pay, or become liable to pay, in carrying out and performing the various duties imposed upon him under the provisions of this act, or by the county board of health, all of which accounts for services, mileage and other expenses shall be audited by the county board of health, and certified to the county commissioners of the county, and paid as other county expenses are paid.

§ 13. Reports.] The Superintendent of Public Health shall, on the first day of December, 1886, and biennially thereafter, make a full report to the Governor and to the Legislative Assembly of the Territory of Dakota, which report shall show all that has been done by the Territorial Board of Health, and by such Superintendent of Public Health, during the two years preceding the making of such report, the number of cases treated by said Superintendent of Public Health, and in each of the counties by the county superintendents of health, the character and extent during such time of all the contagious or infectious diseases that have been reported to said Superintendent of Public Health; and he shall also report a full statement of all expenditures by said Territorial Board of Health, and in each of the organized counties in this Territory by the county boards of of health, and he shall also report such recommendations as he may deem advisable for the better protection of the public health and the prevention and cure of contagious or infectious diseases of persons and of domestic animals.

§ 14. WHO MAY PRACTICE MEDICINE.] No person shall be permitted to practice medicine, in any of its departments, in this Territory unless he be a graduate of a medical college, or unless upon examination before a board, composed of the Superintendent of Public Health and two other physicians to be selected by the Territorial Board of Health, such persons shall be found proficient in the practice of medicine and surgery, and shall also be found upon proof to have been actually engaged in the practice of medicine for a term of not less than ten years, and no person shall practice medicine unless he be of good moral character, and is not an habitual drunkard. Any person possessing the qualifications mentioned in this section, shall upon presentation of his diploma, or of proof thereof by affidavit, if the same is lost or destroyed, and upon the affidavit of two reputable citizens from the county where he resides that such applicant possesses the qualifications of a physician as prescribed herein, to the Superintendent of Public Health, together with a fee of two dollars receive from such Superintendent of Public Health a license, certifying the applicant to be a practicing physician, and having the qualifications for such prescribed by this section, which license shall be recorded in the office of the Register of Deeds in the county where such practicing physician resides. Any person who practices medicine or attempts to practice medicine without complying with the provisions of this section, shall be deemed guilty of a misdemeanor, and any person shall be regarded as practicing medicine, within the meaning of this section, who shall profess publicly to be a physician and to prescribe for the sick, or who appends to his name the letters "M.D.," but nothing in this section shall be construed to prohibit students from prescribing under the supervision of preceptors, or to prohibit gratuitous services in case of emergency, nor shall this section apply to commissioned surgeons in the United States army and navy. Any person violating any of the provisions of this act, or who shall prevent or attempt to prevent the several officers of the public health, or persons employed by them, from performing any of the duties prescribed in this act to be performed by any such officer, or any practicing physician who shall fail to report to the county superintendent of health the existence of any contagious or infectious disease, and any person who shall willfully conceal any case of contagious or infectious disease, either among persons or animals, shall be deemed guilty of a misdemeanor. The district court shall, upon the complaint of any member of the Territorial Board of Health, or the county board of health where he resides, have power to cancel any license that may be issued to any person to practice medicine, where such license was fraudulently obtained, or where the person to whom such license was issued has been guilty of violating any of the provisions of this act.

§ 15. VACANCIES.] In case any vacancy shall occur in the office of vice-president or superintendent of public health, such vacancy shall be filled by appointment by the Governor, and the person so appointed to fill such vacancy shall hold for the unexpired term of office in which such vacancy occurs. In case any vacancy occurs in the office of vice-president or superintendent of health in any of the county boards of health, the Superintendent of Public Health shall appoint some suitable person to fill such vacancy, and the person so appointed shall hold such office until the next meeting of the Territorial Board of Health, and until a successor to such officer has been appointed by said Territorial Board of Health.

§ 16. Nothing contained in this act shall in any manner affect any board of health heretofore established, or that may be hereafter established in any city, village, or incorporated town: *Provided, however,* that all such boards of health shall be under the superintending control of the Territorial Board of Health.

APPROVED March 12, 1885.

DISTRICT OF COLUMBIA.*

NATIONAL MEDICAL COLLEGE.

(*Medical Department of the Columbian University.*)

WASHINGTON, D. C. A. F. A. KING, M. D., Dean, 726 Thirteenth street.

ORGANIZED in 1821, as the Medical Department of Columbian College. It was also authorized to use the title of National Medical College. In 1873 Columbian College became Columbian University. The first class was graduated in 1822. Operations were suspended from 1831 to 1838, and from 1861 to 1863. With these exceptions, classes have been graduated each year since its founding.

The faculty embraces seven professors, one assistant and five demonstrators.

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* The low percentage of graduates in the District of Columbia is owing mainly to the fact that a large number of the matriculates are government clerks, some of whom attend four or more courses of lectures, and, of necessity, do not devote their whole time to study.

Course of Instruction: The curriculum of study consists of three graded annual courses of lectures. The regular yearly term began October 4, 1886, and will end March 1, 1887. A spring session is held during April and May.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, toxicology, medical jurisprudence, dermatology, ophthalmology, otology, diseases of children, and histology.

Requirements: For admission, "Matriculates will be required to show that they are fitted, by previous education, for the study of medicine, and for this purpose they must either submit themselves to an examination, or in lieu thereof present a satisfactory certificate of their attainments from some college, seminary or high school." Students who have attended one course in any other regular medical school are placed on the same footing as first-course students of this college, and those who have attended two courses are admitted to the third-year class after passing a satisfactory examination on anatomy, physiology, chemistry and materia medica.

For graduation: 1) three years' study; 2) twenty-one years of age; 3) good moral character; 4) attendance on three courses of lectures, and satisfactory examinations at the end of second and third years; 5) dissection, at least two sessions; and 6) attendance on two courses of clinical instruction.

Fees: Matriculation (paid once only), $5; lectures, $100; examination, primary, $20; final, $10; demonstrator, $10.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates:

Session.	Matriculates.	Graduates.	Percent.
1877-78	53	6	11.3
1878-79	55	11	20.
1879-80	56	8	14.3
1880-81	44	5	11.3
1881-82	52	8	15.4
1882-83	79	10	12.6
1883-84	78	14	17.9
1884-85	86	14	16.2
1885-86	103*	8	7.7

Percentage of graduates to matriculates for the past nine years, *thirteen*.

UNIVERSITY OF GEORGETOWN, MEDICAL DEPARTMENT.

Washington, D. C. J. W. H. **Lovejoy**, M. D., Dean, No. 900, Twelfth street, N. W.

Organized in 1850. First class graduated in 1851; classes have been graduated each subsequent year.

Faculty embraces seven professors, two clinical professors, six professors of special departments and a demonstrator.

Course of Instruction: Graded, extending over three years, and consisting of didactic and clinical lectures, recitations, demonstrations, and of dissecting and other practical manipulation during about seven months of each year. Students are divided into first, second and third year classes. The session for 1886-87 began September 20, 1886, and continues until April 24, 1887.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene and state medicine, histology, medical jurisprudence, ophthalmology, otology, laryngology, diseases of children, microscopy, toxicology. Class recitations are conducted by the members of the faculty, one hour every week being devoted to each branch; and at the close of each session class examinations are held upon the subjects of study of each of the three classes.

Requirements: For admission, a written preliminary examination upon the ordinary branches of an English education, "for the purpose of ascertaining whether the candidate can profitably pursue the technical study of medicine and of preventing those not qualified from wasting time and money." Graduates of colleges, high-schools and academies are exempt from this preliminary examination. Students having attended one term at other medical colleges in good standing, will be admitted to the second course upon passing the examination exacted of students at the end of the first year; and candidates presenting certificates of examination from other medical colleges in good standing are admitted to the respective higher classes without further examination.

For graduation: 1) good moral character; 2) twenty-one years of age; 3) not less than three years' study; 4) three full courses of instruction; 5) two courses of practical anatomy.

Fees: Matriculation, (paid but once), $5; first class (four tickets), $60; second class (seven tickets), $105; third class (three tickets), $45; demonstrator, $10; examination fee (final), $15.

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*Not including three graduates who matriculated.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	40	4	10
1878-79	38	6	16—
1879-80	54	13	24+
1880-81	43	5	11.6
1881-82	30	7	23.3
1882-83	27	4	15—
1883-84	34	7	20.5
1884-85	35	11	31.4
1885-86	30	10	33.3

Percentage of graduates to matriculates during the past nine years, *twenty.*

REMARKS: Attendance on recitations is obligatory; a record is kept and each student is credited at the end of the course.

HOWARD UNIVERSITY, MEDICAL DEPARTMENT.

WASHINGTON, D. C. CHARLES B. PURVIS, M. D., Secretary, 1118 Thirteenth street, N. W.

ORGANIZED in 1867. The first class graduated in 1871, and classes have been graduated each subsequent year.

The faculty embraces nine professors, one lecturer and a demonstrator.

COURSE OF INSTRUCTION: Comprises lectures, recitations, clinics and practical exercises. The annual course of lectures, beginning October 4, 1886, continues five months. Three courses of lectures are required to complete the curriculum. The student is allowed to devote his first term to anatomy, physiology, chemistry and materia medica, but the second must be given to all the subjects. The school has a summer session of six weeks beginning in April.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, pharmacy and botany, microscopy, dental surgery and toxicology.

REQUIREMENTS: For admission, matriculates must be of good moral character; present a diploma from some good literary or high school, or a first-grade teacher's certificate, or pass an examination in the English branches.

For graduation: 1) twenty-one years of age; 2) three years' study including three courses of lectures; 3) attended clinical lectures and dissections; 4) written and oral examination on required branches.

FEES: Matriculation, $10; demonstrator, $9; lectures, $50; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	25	9	34+
1878-79	30	10	33+
1879-80	31	13	42—
1880-81	81	13	16+
1881-82	91	16	17+
1882-83	87	31	35+
1883-84	90	22	24.4
1884-85	85	25	29.4
1885-86	102	20	19.6

Percentage of graduates to matriculates during the past nine years, *twenty-five.*

MEDICAL DEPARTMENT, NATIONAL UNIVERSITY.

WASHINGTON, D. C. H. H. BARKER, M. D., Dean, 1116 H street, N. W.

ORGANIZED in 1884. The faculty consists of seven professors, one demonstrator and one lecturer.

COURSE OF INSTRUCTION: The third annual session began on the first Monday in October, 1886, and will end the last Thursday in April, 1887. Instructions will be given by lectures, recitations, clinics and practical exercises. "It is deemed advisable to divide the course of studies into three years, advancing the student as he passes the required examination of his respective class." Students who have begun their professional studies elsewhere are admitted to advanced standing upon passing the necessary examination.

Lectures embrace: First year—anatomy, physiology, general chemistry and materia medica; Second year—practical and topographical anatomy, practical chemistry and toxicology, materia medica and therapeutics, physiology, hygiene, practice of medicine, surgery, and obstetrics; Third year—practice of medicine, pathological anatomy, surgery, obstetrics and the diseases of women and children, and medical jurisprudence.

REQUIREMENTS: For admission. "All candidates must pass an examination in English, or present a certificate of proficiency in the same from some recognized institution of learning."

For graduation: 1) three years' study; 2) satisfactory examination in all the subjects of the three years' course, "the last of which must have been in this college;" 3) certificate of demonstrator that the necessary dissections of the human body have been made.

FEES: Matriculation (once), $5; lectures, $100; demonstrator, $10; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1884-85	9	1	11
1885-8	10	1	0

Percentage of graduates to matriculates for last two sessions, *ten*.

Names of matriculates and graduates for session of 1885-86 not given in announcemen

FLORIDA.

UNIVERSITY OF FLORIDA, MEDICAL DEPARTMENT.

JACKSONVILLE, Fla. T. O. SUMMERS, M. D., Dean.

ORGANIZED in 1883. Removed from Tallahassee to Jacksonville in 1885.—No longer a graduating, but simply a preparatory school.

GEORGIA.

MEDICAL COLLEGE OF GEORGIA.

(*Medical Department, University of Georgia.*)

AUGUSTA, Ga. EDWARD GEDDINGS, M.D., Dean of the Faculty.

ORGANIZED in 1829, as a Medical Academy, and has been in constant operation ever since, except during the period of the war. In 1873 it became the Medical Department of the State University of Georgia.

The faculty embraces seven professors, one professor of special subjects, four clinical assistants and two demonstrators of anatomy.

COURSE OF INSTRUCTION: One course of lectures annually, beginning on the first Monday in November, and ending on the first of March. Graded course of three terms recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence, ophthalmology, otology and pharmacy.

REQUIREMENTS: For admission, none.

For graduation: "A candidate for the degree of Doctor of Medicine must have attended two full courses of lectures in this or some other college in good standing, and pass a satisfactory examination on all the branches taught in this institution."

FEES: Matriculation (paid once only), $5; tickets, $75; practical anatomy (paid once only), $10; diploma, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	48	19	38.9
1882-83	—	23	——
1883-84	85	37	43.5
1884-85	77	34	44.1
1885-86	88	36	40.9

Percentage of graduates to matriculates for the years reported in full *forty-two*.

SOUTHERN BOTANICO-MEDICAL COLLEGE.

FORSYTH—MACON, Ga.

ORGANIZED in 1839 at Forsyth. Removed to Macon in 1846. First class graduated in 1841, and classes were graduated every year until 1854. when the name was changed to the Reform Medical College of Georgia—*vide infra*.

THOMPSONIAN COLLEGE.

BARBOURVILLE, Ga.

ORGANIZED about 1850.—Extinct.

SAVANNAH MEDICAL COLLEGE.

SAVANNAH, Ga.

ORGANIZED in 1853. Suspended during the civil war, 1861-66.—Extinct since 1880.

REFORM MEDICAL COLLEGE OF GEORGIA.

MACON, Ga.

ORGANIZED in 1854, as the successor of the Southern Botanico-Medical College—*vide supra*. Classes were graduated every year until 1861; suspended during the civil war; resumed in 1867; classes graduated in 1868 and each subsequent year until 1874, when the school assumed the name of the College of American Medicine and Surgery—which see.

ATLANTA MEDICAL COLLEGE.

ATLANTA, Ga. JAMES A. GRAY, M. D., Proctor of the College.

ORGANIZED in 1854. Closed during the rebellion, 1861-65. Reorganized in 1865. Classes were graduated from 1855 to 1861, inclusive, and each subsequent year.

The faculty embraces eight professors, one assistant, three lecturers and one demonstrator.

COURSE OF INSTRUCTION: One course of lectures annually; the twenty-eighth session of which extends from October 7, 1886, to March 1, 1887. A graded course of three years is recommended but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine. pathology, surgery, obstetrics, gynecology and diseases of the eye and ear. Instruction is also given in venereal diseases, diseases of the throat, minor surgery, and in laboratory work in chemistry.

REQUIREMENTS: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; 5) thesis, or a report of any of the clinics; 6) satisfactory examination on subjects mentioned above.

FEES: Matriculation, $5; demonstrator, $10; full course, $75; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	88	23	26+
1878-79	125	34	27+
1879-80	101	43	42+
1880-81	93	31	33+
1881-82	135	56	41+
1882-83	126	39	31—
1883-84	114	48	42.1
1884-85	88	38	43.1
1885-86	109	38	34.8

Percentage of graduates to matriculates for the past nine years, *thirty-five*.

OGLETHORPE MEDICAL COLLEGE.

Savannah, Ga.

Organized in 1855, and continued its sessions until 1861.—Extinct.

COLLEGE OF AMERICAN MEDICINE AND SURGERY.

Atlanta, Ga.

Organized in 1874 as successor to the Reform Medical College at Macon. Removed to Atlanta in 1881—*vide supra.* The first class under this name was graduated in 1874. There was no graduating class in 1877, '78, '79, '80 or '81. During the session of 1882-3 there was a class of 24 matriculates, of whom 14 were graduated at the close of the session; percentage of graduates to matriculates, *fifty-eight.* In 1884 the charter and effects of this institution were transferred to the Georgia College of Eclectic Medicine and Surgery.

GEORGIA COLLEGE OF ECLECTIC MEDICINE AND SURGERY.

Atlanta, Ga. Joseph Adolphus, M. D., Dean of the Faculty.

Organized in 1877 as the Georgia Eclectic Medical College. After acquiring the charter of the College of American Medicine and Surgery, it assumed its present name in 1886 by virtue of an act passed by the State Legislature. The first class graduated in 1877, and classes have been graduated each subsequent year. The faculty embraces eight professors and one demonstrator.

Course of Instruction: One course of lectures annually. The session of 1836-87 began on the first Monday in October, 1886, and continues until the first week in March, 1887. Daily quizzes are held by the faculty. Each member of the graduating class is required to present, once a week, a thesis on some subject already covered by the lectures, and to defend the same.

Lectures embrace physiology, anatomy, chemistry, toxicology, surgery, materia medica, theory and practice of medicine, medical jurisprudence, nervous and venereal diseases, obstetrics, diseases of women and children.

Requirements: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) thesis; 5) must have dissected the best part of the term; 6) "must have been diligent in attending the lectures and clinics;" 7) "thorough examination on the respective branches taught in the college."

Fees: Matriculation, $5; lectures, $70; demonstrator, $5; graduation, $25. Dissection material at cost.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	81	24	29.6
1882-83	67	18	27—
1883-84	62	17	27.4
1884-85	69	13	18.8
1885-86	63	10	16.

Percentage of graduates to matriculates for past five years, *twenty-four.*

Names of matriculates not given in announcement.

SOUTHERN MEDICAL COLLEGE.

Atlanta, Ga. Wm. Perrin Nicholson, M. D., Dean, P. O. Box No. 234.

Organized 1879. Faculty embraces eight professors, four lecturers, one assistant to the chair of anatomy and demonstrator.

Course of Instruction: One annual lecture course, the current session beginning October 5, 1886, and continuing until the first week in March, 1887. Hospital and dispensary clinics are given, and quizzes by the professors to such students as desire them.

Lectures embrace principles and practice of medicine, obstetrics, diseases of women and children, physiology, hygiene, medical jurisprudence, surgery, anatomy, materia medica, therapeutics, toxicology, diseases of the eye, ear and throat, chemistry, venereal diseases, dermatology, and dental surgery.

Requirements: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) "he must have dissected the different parts of the body in this or some other regular school;" 5) "must undergo a personal and satisfactory examination before the faculty—examination must occur at close of session except in cases of pressing necessity, and then only by unanimous consent of the faculty;" 6) thesis, or report of clinic.

Fees: Matriculation (paid once), $5; tickets, full course, $75; demonstrator, $10; diploma, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879-80	64	8	12+
1880-81	105	38	36+
1881-82	126	37	29+
1882-83	104	37	35+
1883-84	86	27	31.4
1884-85	89	31	34.8
1885-86	82*	34	41.4

Percentage of graduates to matriculates for the years reported, *thirty-two*.

*Not including seven graduates who matriculated.

CLARK UNIVERSITY, MEDICAL DEPARTMENT.

Atlanta, Ga. David Moury, M. D., Dean

Chartered in 1886.—Organization not complete.

ILLINOIS.

ILLINOIS STATE BOARD OF HEALTH.

Springfield, Ill. John H. Rauch, M. D., Secretary of the Board.

Organized July, 1877. Consists of seven members, appointed by the Governor of the State, for terms of seven years each. Its relations with medical education and medical colleges arise from the duties devolved upon it, and the powers and authority vested in it, by the Act to Regulate the Practice of Medicine in the State of Illinois, approved May 29, 1877; in force July 1, 1877. Among such duties, powers and authority are the examination and verification of diplomas presented as the basis for certificates entitling their lawful holders to practice medicine within the State, and the issue of such certificates; the determination of the standing of legally chartered medical institutions; the examination of non graduates as to their qualifications as practitioners, and the issue of certificates or licenses to practice to such as pass satisfactory examinations; the refusal of certificates to individuals guilty of unprofessional or dishonorable conduct, and the revocation of certificates for like causes. The law also applies to midwives.

Since its organization, and up to the date of this revision, October 11, 1886, the Board has examined and verified the diplomas and licenses of 237 institutions and licensing bodies. Of this number it has definitely rejected the diplomas of 24 institutions on ground of fraud or other gross invalidity; it has required the diplomas of 26 other institutions to be supplemented by examination; and it has issued certificates based on the diplomas of legally-chartered medical institutions in good standing to 7414 practitioners, and to 88 others on diplomas supplemented by examination. These last (the 88) have only been issued since the enforcement of the Schedule of Minimum Requirements; that is, to graduates of the sessions since 1882-83.

Of the total number of applicants for certificates on diplomas 1990 were rejected, or withdrew their applications, or were unable to complete them, or in some other manner failed to comply with the requirements of the law; and these, as a rule, either abandoned practice or left the State. In a number of cases, however, the rejected or defective candidates subsequently attended lectures at a reputable medical college, were graduated therefrom, and certificates were issued them upon their diplomas.

The foregoing figures and comments refer only to applicants for certificates based upon diplomas, and do not embrace the non-graduates and exempts. Including these the law has applied to a total of nearly 13,000 individuals, exclusive of midwives. Of this number there are now in practice in the State, in round numbers, about 6000 physicians,† classified as follows: 1. Non-exempt graduates holding certificates based upon diplomas of legally chartered medical institutions in good standing as defined by the Board. 2. Exempt graduates, many of whom have taken out certificates although not so required by the law. 3. Graduates since the sessions of 1882-83, whose diplomas were required to be supplemented by examination in order to conform to the standard of Minimum Requirements of the Board. 4. Non-graduates who have passed the examination prescribed by the law. 5. Non-graduates exempt by reason of having been engaged in practice in the State upwards of 19 years.

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†The last Official Register accounts for a total of 6065, to 5915 of whom the certificate of the Board had been issued.

The number of rejected applicants shows a diminution of late years as the requirements of the law come to be more clearly defined and more generally understood. For the entire period the percentage of rejections and withdrawals has been a fraction over 20; but during the past two years they have averaged about 19 per cent.—In 1884 there were 117 in 597 applicants, and in 1885 there were 114 in 575 applicants. Refusals of certificates are based upon one or more of the following grounds:

1. Failure to present a diploma from a legally-chartered medical institution in good standing as defined by the Board.
2. Failure to sustain a satisfactory examination sufficiently s o test the cations of the candidate for the practice of medicine.
3. Personal or professional antecedents, habits or association, warranting the charge of unprofessional and dishonorable conduct.
4. Proved intent to practice in an unprofessional and dishonorable manner, as by claiming to cure incurable maladies; to possess unusual skill, experience or facilities; and similar claims involving deceit and fraud upon the public.

The Board has revoked 41 certificates for unprofessional and dishonorable conduct.

Non-graduate applicants for license to practice in Illinois are required to submit to examination, in accordance with the following provisions of the Medical-Practice Act:

The State Board of Health * * * shall receive through its Secretary applications for certificates and examinations. * * * * If not a graduate, the person practicing medicine in this State shall present himself before said Board, and submit himself to such examination as said Board shall require; and if the examination be satisfactory to the examiners, the said Board shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned.

§ 3 * * * It shall prepare two forms of certificates, one for persons in possession of diplomas or licenses, the other for candidates examined by the Board; and shall furnish to the county clerks of the several counties a list of all persons receiving certificates.

§ 8. Candidates for examination shall pay a fee of five dollars, in advance, which shall be returned to them if a certificate be refused.

§ 9. Examinations may be made wholly or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner.

All examinations of persons not graduates or licentiates must be made directly by the Board, and the certificates given by the Board authorize the possessor to practice medicine and surgery in the State of Illinois.

Where the candidates have any special views of theory and practice of medicine or of therapeutics, respect is paid to such views, and they are allowed, upon request, to appear before individual members of the Board for special examination in such branches. Examinations are conducted in the English language. If made in another language, interpreters must be furnished at the expense of the applicant.

All candidates must pass a preliminary examination, such as is indicated in the "Minimum Requirements," and must fill out the following:

Application for Examination before the Illinois State Board of Health, under the Act to Regulate the Practice of Medicine in the State of Illinois.

1. Name in full..
2. Nativity and age—(must be at least twenty-one years of age). ....
3. Residence and postoffice...
4. Time spent in professional studies—(must be at least three years). ....
5. Physician or preceptor under whom the studies were pursued, with postoffice address—(must be a licentiate of the Board or reputable practitioner)..............
6. Courses of medical lectures attended..
7. Name of medical school attended—(time spent at schools not recognized by the Board will not be counted)...
8. Time spent in hospital, if any..
9. Time of practice, if any..
10. School of practice chosen...
11. References as to character (must present certificate of good character from two licentiates of the Board or other reputable practitioners)...........................

Approved.................................. 188....

....
President of the Board,

Subjects of Examination.

1) anatomy; 2) materia medica; 3) theory and practice; 4) gynecology; 5) physiology; 6) pathology; 7) obstetrics; 8) chemistry; 9) surgery; 10) hygiene; 11) medical jurisprudence.

Eighty per cent. of correct answers required.

We have examined this applicant and find him to stand as above,

Signed by the members of the Board.

Number of candidates examined 704. Number of candidates licensed 230. Of these two-thirds have since graduated.

These examinations are independent of those of graduates of colleges that do not fully comply with the Schedule of Minimum Requirements of the Board, and which examinations are confined to the branches or subjects omitted by the given college.

At the April, 1886, meeting of the Board the following preamble and resolution was adopted:

Whereas, The continuous graduation of forty-five (45) per cent. of the total number of matriculates of a medical college—due allowance being made for the average annual loss—must be accepted as prima facie evidence that, practically, every candidate is graduated without regard to competency or qualification; therefore be it

Resolved, That no medical college be recognized as in good standing within the meaning and intent of the Act to Regulate the Practice of Medicine in the State of Illinois, the aggregate graduates of which college amount to forty-five (45) per cent of its aggregate matriculates during any period of five (5) years ending with a session subsequent to the session of 1885-86.

An examination of this Report will show the wide range of these percentages and the varying characteristics of the schools—conditions which bear a close relation to each other.

RUSH MEDICAL COLLEGE.

Chicago, Ill. James H. Etheridge, A. M., M. D., Secretary, 1634 Michigan avenue.

Organized in 1842. First class graduated in 1843, and classes have been graduated each subsequent year.

Faculty embraces twelve professors, three professors of special departments, and eighteen adjunct professors, lecturers, assistants and demonstrators.

Course of Instruction: "Instruction is given in this institution by lectures, clinics, practical work in the dissecting room and laboratories, and by repeated oral examinations. The faculty desire that as many as possible of the matriculates shall pursue their studies in the college through three winter and three spring terms. To encourage this more extended curriculum of college study, final examinations in descriptive anatomy, physiology, chemistry, materia medica and therapeutics are open to three years' students at the end of the second winter session." The forty-fourth [winter] session began September 21, 1886, and continues twenty-one weeks. The spring session, 1887, begins February 22, 1887, and continues sixteen weeks.

Lectures embrace anatomy, physiology, chemistry, materia medica, surgery, principles and practice of medicine, obstetrics, hygiene, medical jurisprudence, genito-urinary diseases, diseases of women and children, dermatology and venereal diseases, ophthalmology, otology, laryngology, dental pathology and surgery, and toxicology, and one course of practical pathology and physiology.

Requirements: For admission, "A matriculation examination which will include the writing of a brief paper on a subject to be given; and an examination in the elementary principles of physics and mathematics as taught in the public schools of the country will be required. The written paper will be sufficient indication of the student's knowledge of orthography, as well as of the subject given. Graduates of a literary or scientific college, academy or high school, or who have passed the entrance examination to a literary college in good standing; or persons having a State or county teacher's certificate; or graduates in medicine; or previous matriculates of this college; or students who desire to pursue a special course of study—other than for the purpose of securing the degree—will be exempt from examination. Students who have completed a full course of study equivalent to that required for admission to this college, may, by special arrangement, be admitted on the certificates of their instructors."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures: "The lectures of the spring term cannot be considered as a *course of lectures* in this requirement:" 5) clinical instruction for two terms; 6) dissection of each region of the body; 7) one course in practical chemistry; 8) one practical course in the laboratory of physiology and pathology; 9) full and satisfactory examination on each branch taught in the college.

Fees: Matriculation, $5; lectures, $80; demonstrator, $10; clinical laboratory, $5; laboratory of physiology and pathology, $5; final examination, $30. The materials for laboratory work are furnished at cost price. For the annual spring course—matriculation, $5; lectures $20; (this amount will be deducted from the fees of the next following winter session); chemistry, $5; demonstrator, $5; hospital and infirmary, $5. "Graduates of the college are admitted on the payment of the matriculation fee only; graduates of other regular medical colleges on payment of matriculation fee and ten dollars."

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	379	128	33.8
1878-79	364	122	33.5
1879-80	481	147	30.5
1880-81	559	172	30.7
1881-82	583	185	31.7
1882-83	549	183	33.3
1883-84	451	166	36.8
1884-85	419	150	35.8
1885-86	404	156	38.6

Percentage of graduates to matriculates during the past nine years, *thirty-three.*

Names of matriculates not given in announcement.

MEDICAL DEPARTMENT OF ILLINOIS COLLEGE.

Jacksonville, Ill.

Organized in 1843. Suspended lectures in 1848.

Remarks: The faculty, as given in the catalogues and announcements still extant, embraced six professors, three of whom resided at Jacksonville, one at Springfield, one at Alton, and one at Geneva, Kane county; and who lectured on chemistry, physical ætiology, obstetrics, diseases of women and children, surgical and pathological anatomy, surgery, principles and practice of medicine, materia medica, therapeutics, anatomy and physiology. The course of lectures was of sixteen weeks' duration. The fees were: lectures, $60; dissection, $5; matriculation, $3; graduation, $20.

The requirements for graduation were: 1) thorough course of study with some practitioner, (this course, according to the last catalogue, must extend over three years); 2) two full courses of lectures—provided, however, that several years of reputable experience in the practice of medicine may be accepted in the place of one course of lectures; 3) full and satisfactory examination in all the branches of medical study; 4) thesis. Students applying for graduation were expected to possess a competent English and classical education. Dissection was optional.

During its existence instruction was given to about seventy-five students, and thirty-seven were graduated.

MEDICAL DEPARTMENT, UNIVERSITY OF ST. CHARLES.

St. Charles, Ill.

Organized in 1847. One course of lectures was delivered, when the institution was transferred to Rock Island, and subsequently, in 1850, to Keokuk, Iowa, when it became the College of Physicians and Surgeons.

ROCK ISLAND MEDICAL COLLEGE.

Rock Island, Ill.

Organized in 1848.—Extinct 1849.

CHICAGO MEDICAL COLLEGE.

Medical Department of the Northwestern University.

Chicago, Ill. **Frank Billings, M. D.**, Secretary, 235 State street.

Organized in 1859, as the Medical Department of Lind University, it continued under that name until 1864, when, severing this connection, it assumed the name of the Chicago Medical College. The school entered into its present university relations in 1869.

The faculty embraces eighteen professors, four lecturers and three demonstrators.

Course of Instruction: Graded, comprising three annual consecutive courses of lectures. The twenty-eighth annual session began September 28, 1886, and ends March 29, 1887. Studies:—First-year course—Descriptive anatomy, physiology, histology, practical microscopy and general chemistry; Second-year course—Surgical anatomy and operative surgery, general pathology and pathological anatomy, materia medica and general therapeutics, state medicine and public hygiene, practical obstetrics, medical chemistry, dermatology, hospital and dispensary clinics; Third-year course—Theory and practice of medicine and clinical medicine, principles and practice of surgery and clinical surgery, gynecology, diseases of children, ophthalmology and otology, nervous and mental diseases medical jurisprudence and daily attendance upon hospital and dispensary clinics; Fourth-year course—(optional)—Clinical instruction in medicine, surgery, obstetrics, gynecology, ophthalmology, otology, dermatology, nervous and mental diseases, medical jurisprudence, and more advanced work in microscopic pathology and analytical chemistry.

Requirements: For admission, a certificate of graduation from a literary college, a scientific school or academy, or an examination before a committee of the faculty. Accredited certificates of one year's study entitle holders to enter as second-course students after satisfactory examination in studies of first-year course. Certificates of two years' study and of attendance on one full course of lectures entitle to entry as third-course students after examination in studies of first and second years.

For graduation: 1) evidence of good moral character; 2) three years' study; 3) required age, twenty-one years; 4) attendance upon three courses of lectures, unless admitted to advanced standing by examination; 5) dissection of three parts of the human body; 6) one year of hospital attendance; 7) passing all examinations; 8) satisfactory thesis.

Fees: Matriculation, $5; lecture fees for first and second collegiate years (the third year being free), $75; demonstrator, $10; laboratory, $5; deposit against breakage in laboratory, $5; hospitals, $5 and $6; final examination, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	153	50	32.6
1878-79	152	37	24.4
1879-80	148	38	25.6
1880-81	152	45	32.2
1881-82	155	39	25+
1882-83	137	42	30.6
1883-84	114	41	35.9
1884-85	119	41	34.4
1885-86	125	38	30.4

Percentage of graduates to matriculates for past nine years, *twenty-nine*.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL.

Chicago, Ill. E. S. Bailey, M. D., Registrar, 3031 Michigan avenue.

Organized in 1859. The first class was graduated in 1860. Classes have been graduated each subsequent year.

The faculty embraces fifteen professors, and three adjunct professors.

Course of Instruction: One annual graduating course of lectures. The twenty-seventh regular session began September 21, 1886, and ends February 25, 1887. The plan of teaching is "largely clinical and objective." Daily and weekly quizzes are conducted by the professors in person.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine and medical jurisprudence, pathology, surgery, obstetrics and gynecology, hygiene, toxicology, ophthalmology and otology, histology, minor and operative surgery.

Requirements: For admission—"Upon application for admission each student must present to the registrar satisfactory evidence of a good English education. Such as are graduates of a literary or scientific college, academy or high school, or who have passed the entrance examination to a literary college in good standing; who have a county or first-grade teacher's certificate; graduates in medicine; and students who desire to pursue a special course of study—other than for the purpose of securing the degree—will be exempt from this requirement, providing they furnish the documentary evidence to the registrar. Lacking such credentials from former teachers, the students must pass a fair but not a technical examination, before a committee of faculty appointed for that purpose.

For graduation: 1) twenty-one years of age; 2) must have pursued the study of medicine for at least three years, attended two full courses of lectures and dissected at least two parts or during two courses; 3) candidates must pass all the regular examinations.

Fees: Matriculation, $5; lectures, $50; final examination, $25; hospital free to matriculates; demonstrator (including material), $10; perpetual ticket, $95.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	165	94	56.9
1878-79	197	67	34+
1879-80	205	87	42.4
1880-81	195	100	51+
1881-82	264	108	40.9
1882-83	297	134	45+
1883-84	259	113	43.6
1884-85	214	93	38
1885-86	*227	†92	40.5

Percentage of graduates to matriculates for past nine years, *forty-three.*

* Not including eleven graduates who matriculated.
† Not including eight upon whom the ad eundem degree was conferred.

BENNETT COLLEGE OF ECLECTIC MEDICINE AND SURGERY.

Chicago, Ill. Milton Jay, M. D., Dean, N. W. corner of State and Madison streets.

Organized in 1868. The first class was graduated in 1869. Classes have been graduated each subsequent year.

The faculty consists of fourteen professors, one demonstrator and two lecturers.

Course of Instruction: Extends over two annual lecture terms, but students electing a three years' graded course will be allowed, at the end of the second year, to enter the final examination upon anatomy, physiology, chemistry and materia medica.—Instruction is imparted by didactic and clinical lectures, daily quizzes and laboratory work The session of 1886-87 began September 28, 1886, and continues six months, closing March 29, 1887. The practitioners' course begins February 8, 1886, and continues six weeks.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, orthopedy, ophthalmology and otology, diseases of the teeth and adjacent structures, venereal diseases and dermatology, diseases of children, electro-therapeutics, pharmacy, toxicology and insanity.

Requirements: For admission, credible certificates of good moral character, and a good elementary English education, "including mathematics, English composition and elementary physics, or natural philosophy, as attested by the presentation of a diploma of graduation from some literary and scientific college or high school, or a first-grade teacher's certificate, or by a creditable examination upon those branches by a committee appointed for that purpose."

For graduation: 1) the candidate must possess satisfactory references as to good moral character and have attained the age of twenty-one years; 2) three years' study; 3) must have attended not less than two courses of lectures, the last of which must have been in this college; 4) must have completed the prescribed course of analytical chemistry and practical anatomy; 5) sustain a satisfactory and honorable examination in every department.

Fees: Matriculation, $5; lectures, $50; demonstrator, $10; analytical chemistry, $10; examination, $50.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	139	65	46
1878-79	106	29	27
1879-80	123	37	30
1880-81	127	51	40
1881-82	113	38	33
1882-83	147	52	35
1883-84	159	50	31
1884-85	143	37	25.8
1885-86	*122	50	40.9

Percentage of graduates to matriculates for the past nine years, *thirty-four.*

*Not including eleven graduates who matriculated, upon four of whom the ad eundem degree was conferred.

CHICAGO NORTHWESTERN COLLEGE.

CHICAGO, Ill.

INCORPORATED 1862. Re-chartered in 1864, and in 1870 became the Edinburg University. Fraudulent.—Extinct.

EDINBURG UNIVERSITY OF CHICAGO AND ST. LOUIS.

CHICAGO, Ill.

INCORPORATED September 23, 1870, under the general incorporation act of the State. A fraudulent institution, exposed by the ILLINOIS STATE BOARD OF HEALTH, and since defunct. It was also incorporated under the laws of Missouri.

WOMAN'S MEDICAL COLLEGE OF CHICAGO.

CHICAGO, Ill. MARIE J. MERGLER, M. D., Secretary, 29 N. Throop street.

ORGANIZED in 1870. The first class was graduated in 1871. No class was graduated in 1872. Classes have been graduated each subsequent year.

The faculty embraces eighteen professors, three lecturers, one assistant, and two demonstrators of anatomy.

COURSE OF INSTRUCTION: The session of 1886–87 began September 7, 1886, and ends April 5, 1887. A graded course of three years recommended, but not required. Instruction is given by didactic lectures, recitations, clinical lectures, practical work, and attendance on hospitals.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence, hygiene, ophthalmology and otology, diseases of children, diseases of the throat and chest, diseases of the nervous system, histology, dental surgery, dermatology.

REQUIREMENTS: For admission—"Students must present, before matriculating, satisfactory proof of a good English education. A certificate of graduation from high school, academy or college, or a teacher's certificate from a county superintendent of schools, will be accepted as sufficient evidence of such education. Students without such credentials will, in every case, be required to pass an examination before a committee of the faculty. Certificates of character are required."

For graduation: 1) twenty-one years of age; 2) three years' study; 3) two full courses of lectures, one of which must have been in this college; 4) two courses in practical anatomy; 5) one course in practical chemistry; 6) one course in hospital clinical instruction; 7) a satisfactory examination.

FEES: Matriculation, $5; lectures, $60; demonstrator, $10; chemical laboratory ticket, $5; chemicals, at cost; final examination, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877–78	32	7	22—
1878–79	39	5	13—
1879–80	76	10	13+
1880–81	77	17	22
1881–82	82	23	28
1882–83	79	18	22
1883–84	69	21	30.4
1884–85	75	22	29.3
1885–86	76	19	25

Percentage of graduates to matriculates for past nine years, *twenty-three.*

CHICAGO HOMEOPATHIC MEDICAL COLLEGE.

CHICAGO, Ill. J. R. KIPPAX, M. D., Secretary, 3154 Indiana avenue.

ORGANIZED in 1876. The first class was graduated in 1877. Classes have been graduated each subsequent year.

The faculty embraces fifteen professors, one adjunct professor, three lecturers and one demonstrator.

COURSE OF INSTRUCTION: A regular session of twenty-two weeks' duration, commencing September 28, 1886, and ending February 24, 1887. Three years' graded course recommended, but not required. A junior and a senior course (two separate and distinct courses) are delivered during each college term. Clinics at hospital and dispensary.

Lectures embrace: Junior year—Anatomy, physiology, microscopy, materia medica, chemistry, toxicology, pathology, histology, sanitary science and dental surgery. Senior year—Principles and practice of medicine and surgery, gynecology, pedology, materia medica, obstetrics, ophthalmology and otology, mental and nervous diseases, medical jurisprudence and clinics.

Requirements: For admission—"A credible certificate of good moral character, a diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate. Or, lacking this, * * a thorough examination in the branches of a good English education (including mathematics, English composition, and elementary physics or natural philosophy), before the examining board of the faculty."

For graduation: 1) twenty-one years of age; 2) three years' study; 3) two full courses; 4) practical anatomy to the extent of having dissected every region of the human body; 5) pass all the regular examinations.

Fees: Full course of lectures, including matriculation, $55; perpetual ticket, $90; final examination, $25; partial course, each chair, $10; demonstrator's ticket, $10; hospital, $5.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	105	25	23.3
1878-79	110	31	28+
1879-80	86	20	23.2
1880-81	87	25	28.7
1881-82	128	38	29.6
1882-83	125	40	32—
1883-84	134	39	29.1
1884-85	125	22	17.6
1885-86	130*	52	40

Percentage of graduates to matriculates for past nine years, *twenty-eight*.

*Not including six graduates who matriculated.

COLLEGE OF PHYSICIANS AND SURGEONS OF CHICAGO.

Chicago, Ill. D. A. K. Steele, M. D., Secretary, 1801 State street.

Organized in 1882. The first class was graduated in 1883. The faculty consists of twenty-three professors, eight lecturers and one demonstrator.

Course of Instruction: The session of 1886-87 commenced September 21, 1886, and continues twenty-two weeks. A graded course of three years recommended, but not required. "Instruction will be given by didactic and clinical lectures, practical work in the dissecting room, clinical and physiological laboratories, and by oral and written examinations."

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics, gynecology, hygiene, medical jurisprudence, histology, microscopy, dermatology, genito-urinary diseases, dental surgery, orthopedics, ophthalmology and otology, diseases of children, nervous and mental diseases, laboratory work in chemistry and physiology.

Requirements: For admission, 1) a credible certificate of good moral character; 2) diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate, or, lacking this, he will be required, 3) to pass a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy, before a committee of the faculty."

For graduation: "1) good moral character; 2) attainment of twenty-one years of age; 3) three years' study of medicine under the direction of a regular physician or medical college; 4) attendance upon two full winter courses of lectures in a regular medical college, the last of which must have been in this college; 5) having dissected during two sessions, including dissections of each part of the cadaver; 6) attendance upon two terms of clinical and hospital instructions; 7) satisfactory examinations."

Fees: Matriculation (paid annually), $5; lectures, $60; dissecting ticket, $10; chemical laboratory (compulsory), $5; Cook county hospital (compulsory), $5; eye and ear infirmary (optional), $5; each of these good for one year; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-83	152	52	34.2
1883-84	167	52	31.1
1884-85	167	60	35.9
1885-86	*151	71	47+

Percentage of graduates to matriculates for past four years, *thirty-six.*

*Not including eight graduates who matriculated.

QUINCY COLLEGE OF MEDICINE.

Medical Department of Chaddock College.

Quincy, Ill. L. H. Cohen, M. D., Secretary, 837 Vermont street.

Organized in 1882. The faculty embraces eleven professors, one demonstrator and one lecturer.

Course of Instruction: One lecture session is held annually, extending from the second Tuesday in October to the second Wednesday in March.

Lectures, clinical and didactic, embrace anatomy, physiology, chemistry, materia medica and therapeutics, pharmacy, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, toxicology, ophthalmology and otology.

Requirements: For admission, "All applicants who can present evidence of a good English education, sufficient to enable them to understand medical literature, and to readily and thoroughly comprehend the necessary technicalities of our profession, are eligible to our class. This may be made apparent by diploma of graduation from a good literary and scientific college or high school, or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition and elementary physics." A committee will be appointed for the examination of applicants. Female students admitted on the same conditions as male students.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two courses of lectures; 4) two courses of instruction in anatomy, including dissections and demonstrations; 5) three years' study; 6) creditable examination in all the branches taught in the institution.

Fees: Matriculation, $5; lectures, $40; demonstrator, $10; examination, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-83	6	0	——
1883-84	12	4	33.3
1884-85	19	4	21
1885-86	15	7	46.6

Percentage of graduates to matriculates for the four sessions, *twenty-eight.*

PHYSIO-MEDICAL INSTITUTE.

Chicago, Ill. J. R. Blair, M. D., Dean, Madison and LaSalle streets.

Organized in 1885. The faculty embraces eight professors and one demonstrator of anatomy. Five of the faculty reside in other States.

Course of Instruction: The session of 1886-87 began September 30, 1886, and will continue twenty weeks. A graded course of three years is "urgently advised."

Lectures embrace anatomy and physiology, materia medica, chemistry and toxicology, science and practice of medicine, surgery, obstetrics, gynecology, diseases of children, hygiene, medical jurisprudence, ophthalmology and otology, insanity and nervous diseases.

Schedule of studies for three years' course: "First year—Anatomy, with dissections; physiology with histology and laboratory work; materia medica.

"Second year—Anatomy, with dissections and surgical anatomy; sanitary science; toxicology, with medico-legal analysis; materia medica; pharmacy; practical medicine, with medical and physical diagnosis; surgical institutes, with minor surgery; obstetrics; hospital clinics.

"Third year—Practice of medicine; surgery; obstetrics; ophthalmology and otology; insanity; hospital clinics."

REQUIREMENTS: For admission—"Students must, either by high school certificate or suitable examination, give evidence of having a good English education; furnish satisfactory evidence of proper preparation and of good moral character." * * * "Attendance must begin with the opening of the lecture term, and be punctual throughout."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) pursued medical studies three full years, including two full terms of college lectures and hospital attendance, and two courses of dissections; 4) punctual attendance on all college lectures, graduates' quizzes, and two terms of hospital clinics; 5) satisfactory written examination in all the departments of instruction.

FEES: Matriculation, $5; lecture fees; $50; demonstrator's ticket, $5; hospital ticket, $5; graduates' examination, $25.

STUDENTS: Number of matriculates and of graduates and percentage of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percentage,
1885–86	17	10	58.8

Names of matriculates and graduates for 1885–86 not published in announcement.

The Institute is located at 423 Ogden avenue, in a building designed for a store and dwelling.

INDIANA.

UNIVERSITY OF INDIANA.

NEW ALBANY, Ind.

ORGANIZED in 1833. The following history of this, the first fraudulent medical school in the West, is compiled from the minutes of the New York County Medical Society of the date December 16, 1833:

It appears that John Cook Bennett, M. D., LL. D., chancellor, secretary, etc., of this institution, journeyed to New York city in the summer of 1833, and having appointed two members of the county medical society as assistants, proceeded "to examine candidates and dispense diplomas," the persons usually paying therefor the sum of twenty-five dollars. This proceeding becoming known to the society, a committee was appointed "to investigate and report on the subject of diplomas purporting to be issued by the University of Indiana." The committee reported—

1) That such an institution was in existence, having been incorporated by an act entitled "An act to incorporate the Christian College, in New Albany, in Floyd county Indiana." 2) That said college was organized by a meeting of eight persons, at the house of Bennett, in New Albany. 3) That the said college, under its charter, claims, and probably exercises the right to confer eight different degrees on males, and seven on females. 4) That this university embraces seven departments, including a department of medicine. 5) That John Cook Bennett was bishop and secretary of the general university, and president, chancellor and professor of midwifery in the medical department. 6) That by a by-law, the bishop was authorized to send out commissioners to confer degrees, etc. 7) That at the time of issuing the diplomas, this university did not possess buildings, apparatus or facilities of any kind to teach physic and surgery; had not given any full course of instruction, nor had any lectures on medical science been delivered. And finally, that the charges against the members of the society were true. Whereupon the society publicly reprimanded the offenders.

INDIANA MEDICAL COLLEGE.

LA PORTE, Ind.

ORGANIZED in 1844.—Extinct in 1849.

MEDICAL COLLEGE OF EVANSVILLE.

EVANSVILLE, Ind.

ORGANIZED in 1849. Classes were graduated during the years 1850 to 1854, inclusive, numbering 41 alumni. Lectures were suspended from 1854 to 1871. The college was reorganized in 1871, and classes were graduated from 1873 to 1884, inclusive, when the institution suspended.

INDIANA CENTRAL MEDICAL COLLEGE.

Medical Department, Asbury University, Greencastle, Ind.

INDIANAPOLIS, Ind.

ORGANIZED in 1850.—Extinct in 1854.

PHYSIO-MEDICAL COLLEGE OF INDIANA.

INDIANAPOLIS, Ind. C. T. BEDFORD, M. D., Secretary, 290 Massachusetts avenue.

ORGANIZED in 1873. The first class was graduated in 1874. Classes have been graduated each subsequent year.

The faculty embraces nine professors, three lecturers and one demonstrator.

COURSE OF INSTRUCTION: The session of 1886-87 began September 28, 1886, and will continue twenty-four weeks, closing March 14, 1887.

Lectures embrace practice of medicine and clinical medicine, surgery, obstetrics, gynecology, diseases of children, materia medica and therapeutics, botany, electro therapeutics, histology and physiology, general and descriptive anatomy, surgical anatomy, microscopy and pathological histology, chemistry and toxicology, medical jurisprudence, diseases of the rectum, diseases of the eye, ear and throat, and sanitary science.

REQUIREMENTS: For admission, "All applicants must possess at least a good English education. If an applicant is a graduate of a literary college, or presents a certificate from some scientific school or academy, the same will be accepted as satisfactory evidence, but unaccompanied by the above evidence he or she *must* sustain a satisfactory examination by a board of censors."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) must have attended two or more full courses of lectures not delivered in the same twelve months, the last of which must have been in this school; 4) must have attended hospital clinics and received clinical instruction during at least two college terms; 5) must have dissected each region of the body; 6) must have at least one course in practical chemistry. Every candidate must undergo a full and satisfactory examination, written or oral, on each branch taught in the college.

FEES: Matriculation (paid but once), $5; hospital, $3; lectures, $75; demonstrator, $5; graduation, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	19	8	42+
1878-79	15	7	46+
1879-80	15	8	53+
1880-81	20	10	50
1881-82	24	10	41 6
1882-83	26	17	64
1883-84	21	7	33.3
1884-85	34	12	35.3
1885-86	30	18	60

Percentage of graduates to matriculates for past nine years, *forty-seven.*

Names of matriculates and graduates not given in announcement.

MEDICAL COLLEGE OF FORT WAYNE.

FORT WAYNE, Ind.

ORGANIZED in 1876, Classes were graduated in each year from 1877 to 1883, inclusive. Extinct 1883.

MEDICAL COLLEGE OF INDIANA.

INDIANAPOLIS, Ind. C. E. WRIGHT, M. D., Secretary, 107 N. Alabama street.

ORGANIZED in 1878, when the Indiana Medical College (organized in 1868) and the College of Physicians and Surgeons of Indiana (organized in 1873) were united to form this college. It was formerly the Medical Department of Butler University, but severed its connection with that institution in 1883.

The faculty embraces fourteen professors, one lecturer, two adjunct professors and one demonstrator.

Course of Instruction: The sessions of 1886-87 embrace a preliminary term, which began September 22, 1886, and ended October 5, 1886, and a regular session which began October 6, 1886, and continues until March 2, 1887. Systematic daily examinations of the class by members of the faculty are held. Clinics at hospital and college.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, toxicology, pharmacy, dermatology, syphilis, diseases of the mind and nervous system, laryngology, clinical medicine and surgery, ophthalmology and otology, diseases of children.

Requirements: For admission, 1) Candidates, before commencing the first year of study, must present to the faculty a credible certificate of good moral standing; 2) diploma of graduation from a good literary and scientific college or high school, or first-grade teacher's certificate. Or, lacking this, 3) a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy.

For graduation: "He must produce satisfactory evidence of good moral character, and of having attained the age of twenty-one years. He must file a satisfactory certificate of having studied medicine for at least three years under a regular graduate, or a licentiate and practitioner of medicine in good standing, using the word 'regular' in the sense commonly understood in the medical profession. No candidate shall be eligible for final examination for graduation, unless his term of three years' study shall have been completed, or shall expire at a date not later than three months after the close of the final examination. * * * He must file the proper official evidence that during the above-mentioned three years he has matriculated at some affiliated college or colleges for two regular sessions, and in the course of the same has attended two full courses of instruction. The candidate must have passed a personal examination before the faculty on all the branches of medicine taught in this college."

Fees: Matriculation, $5; laboratory, $5; lectures, 40; demonstrator, $5; hospital, $5; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1878-79	143	66	46+
1879-80	182	60	33—
1880-81	200	83	41.5
1881-82	161	58	35+
1882-83	131	53	40.4
1883-84	71	43	60.5
1884-85	60	28	46.6
1885-86	66*	27	40.9

Percentage of graduates to matriculates for past eight years, *forty-one*.

*Not including two graduates who matriculated and upon whom the ad eundem degree was conferred.

CENTRAL COLLEGE OF PHYSICIANS AND SURGEONS.

Indianapolis, Ind. Jos. O. Stillson, M. D., Secretary, 199 N. Delaware street.

Organized in 1879. The first class was graduated in 1880.

The faculty enbraces nine professors, two lecturers, one adjunct professor and one demonstrator.

Course of Instruction: The regular winter session of 1886-87 commenced October 1, 1886, and continues to March 1, 1887. A three years' graded course is recommended, but not required. Clinical instruction of college and hospital.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, sanitary science, medical jurisprudence, ophthalmology, otology, histology and diseases of the nervous system, clinical medicine and surgery, and genito-urinary diseases.

Requirements: For admission, "Students must present, before matriculating, satisfactory proof of a good English education." 1) credible certificate of good moral character; 2) diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate; or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy. ~~Students who have attended one course of lectures, and practitioners in good standing, are exempt from this requirement~~.

For graduation: 1) good moral character; 2) twenty-one years of age; 3) three years' study; 4) two full courses of lectures; 5) must pass satisfactory examination in anatomy, including dissections, physiology, chemistry, materia medica, therapeutics, obstetrics, surgery, principles and practice of medicine, clinical medicine.

Fees: Matriculation, $5; lectures, $40; laboratory, $5; demonstrator, $5; hospital, $6; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879-80	42	12	28.5
1880-81	62	17	27.4
1881-82	43	10	23+
1882-83	44	24	54.5
1883-84	28	13	46.4
1884-85	25	11	44
1885-86	20	12	60

Percentage of graduates to matriculate for the past seven years, *thirty-seven.*

FORT WAYNE COLLEGE OF MEDICINE.

Fort Wayne, Ind. C. B. Stemen, M. D., Dean, 261 W. Wayne street.

Organized in 1879. The first class was graduated in 188

The faculty embraces seventeen professors, two adjunct professors, one lecturer, one demonstrator and four assistants.

Course of Instruction: The collegiate year of 1886-87 began September 21, 1886, and closes March 1, 1887. A three years' graded course is recommended, but its acceptance is optional with the student. Clinics at hospital and college.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, toxicology, ophthalmology and otology, diseases of children, orthopedic surgery, genito-urinary and rectal diseases, mental and nervous diseases and laryngology.

Requirements: For admission, "Each student must present satisfactory evidence, on examination or otherwise, of proficiency in the fundamental branches of an English education. Graduates from a college, academy or high school, or a license to teach in the public schools, will be evidence of such proficiency."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) "satisfactory certificate of having studied medicine three years under a regular graduate or licentiate and practitioner of medicine in good standing. No candidate shall be eligible for final examination for graduation unless his or her term of three years' study shall have been completed, or shall expire at a date not later than three months after the close of the final examination;" 4) two full courses of lectures, not within the same twelvemonth; 5) dissection for one session; 6) instruction in chemistry during one session; 7) must have followed the practice of a hospital; 8) must pass monthly and terminal examinations; premature examination will be granted if good and sufficient reasons are given for requesting it.

Fees: Matriculation, $5; lectures, $40; demonstrator, $5; laboratory, $5; hospital, $5; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	27	16	59+
1882-83	25	12	48
1883-84	23	10	43.5
1884-85	21	5	23.8
1885-86	22*	11	50

Percentage of graduates to matriculates for the past five years, *forty-five.*

*Not including two graduates who matriculated, upon one of whom the ad eundem degree was conferred and upon the other the honorary degree.

INDIANA ECLECTIC MEDICAL COLLEGE.

Indianapolis, Ind. L. Abbett, M. D., Dean, 31½ Virginia avenue.

Organized in 1880. The faculty consists of nine professors, one demonstrator and four lecturers.

Course of Instruction: The regular session of 1886-87 began October 4, 1886, and will continue twenty weeks.

Lectures embrace anatomy, physiology, chemistry, materia medica, therapeutics, theory and practice of medicine, pathology, surgery, obstetrics, gynecology, hygiene, medical jurisprudence, ophthalmology, otology, electro-therapeutics, diseases of children, and deseases of the throat and chest.

Requirements: For admission, "Every student must show credible certificates of good moral character, and must possess a diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate; or, lacking this, a thorough examination in the branches of good English education, including mathematics, English composition and elementary physics or natural philosophy."

For graduation: 1) twenty-one years of age; 2) three-years' study; 3) two full courses of lectures; 4) must produce evidence of attendance on lectures on practical anatomy; 5) thesis or clinical report; 6) examination on the regular and essential branches of medicine; 7) good moral character.

Fees: Matriculation, $5; demonstrator, $5; lectures, $40; graduation, $25; laboratory, $5; hospital, $3.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1880-81	27	12	44.4
1881-82	19	11	58+
1882-83	24	7	29+
1883-84	31	10	32.2
1884-85	19	8	42.1
1885-86	37	22	59.4

Percentage of graduates to matriculates for past six years, *forty-four*.

CURTIS PHYSIO-MEDICAL INSTITUTE.

Marion, Ind. D. B. Snodgrass, M. D., Dean of Faculty.

Organized in 1881 under a general act of the State Legislature passed in 1855. The faculty embraces six professors.

Course of Instruction: The fifth regular course of lectures began October 5, 1886, and will close March 5, 1887. "The instruction of this institute consists of didactic lectures and practical demonstrations." The "*means of demonstrating consists of maps, charts and manican skeletons*." No hospital attendance is required, but "Saturday of each week will be devoted to clinics at the institute rooms. The extensive practice of the faculty will furnish a clinic second to none outside of large cities."

Lectures embrace regional anatomy and pathology, anatomy and surgery, histology* and physiology, botany and chemistry, theory and practice of medicine, diseases of women and children, and toxicology.

Requirements: For admission—None.

For graduation: 1) knowedge of the English branches; 2) good moral character; 3) satisfactory evidence, upon examination, of a thorough and complete knowledge of all branches necessary to a first-class medical education.

Fees: Professors' ticket, $50; matriculation, $5; demonstrator, $5; graduation, $25.

Remarks: The above is collated from the Fifth Annual Announcement of the school. Its existence was unknown to this Board until after the recent law regulating the practice of medicine and surgery in the State of Indiana had been passed; and repeated letters requesting information in regard to its history, etc., have failed to elicit any reply from the faculty. Owing to this reticence on the part of those connected with the school, letters of inquiry were sent to each county in Indiana, in order to ascertain how many diplomas had been placed upon record in the offices of the Circuit Clerks. By this means seventeen graduates have been discovered, their diplomas being dated as follaws: one March 1, 1883; one, February 28, 1884; one March, 1884; eight, March 4, 1885; five, July 21, 1885, and one, July 25, 1885.

It will be observed that until March, 1885, there had been but one graduating course, but after the law regulating the practice of medicine and surgery, passed by the legislature in April, had been declared in full force by proclamation of the Governor, issued July 23, 1885, six additional diplomas were immediately issued. It would seem that the law had thus stimulated the making of this second crop of doctors.

Of the present faculty two are graduates of the school, one in March and one in July, 1885.

Names of matriculates and graduates not given in the announcement.

Diplomas not recognized.

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*On the cover of the announcement for 1886-87 Dr. Hough's Vegetable Liver Pills, Alterative and Tonic System Renovator, Throat and Lung Syrup, Electric Light Liniment, and Cordial Compound are advertised as "remedies that will give satisfaction every time." Dr. Hough is the Professor of histology and physiology.

HOSPITAL MEDICAL COLLEGE OF EVANSVILLE.

EVANSVILLE, Ind. CHARLES KNAPP, M. D., Secretary.

ORGANIZED in 1882. First class was graduated in 1883.—Extinct in 1886.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-83	11	5	45.4
1883-84	11	2	18.1
1884-85	12	6	50
1885-86	15	4	26.6

Percentage of graduates to matriculates for past four years, *thirty-four.*

BEACH MEDICAL COLLEGE.

INDIANAPOLIS, Ind.

ORGANIZED in 1883. In 1884 this college was merged into the Indiana Eclectic Medical College.

BEACH MEDICAL INSTITUTE.

INDIANAPOLIS, Ind.

The Beach Medical College was merged into the Indiana Eclectic Medical College before the commencement of the lecture course of 1884-85. About six weeks after the lecture course commenced, the Beach element seceded, and organized the Beach Medical Institute, taking with them some of the students. After a very questionable existence it was again merged into the Indiana Eclectic Medical College at the close of the session of 1885-86. The institution graduated one class in 1885.

IOWA.

AN ACT to regulate the practice of Medicine and Surgery in the State of Iowa. Chapter 104, Laws of 1886.

Be it enacted by the General Assembly of the State of Iowa: SECTION 1. That every person practicing medicine, surgery or obstetrics, in any of their departments, within this State, shall possess the qualifications required by this act. If a graduate in medicine such person shall present his or her diploma to the State board of examiners, for verification as to its genuineness. If the diploma is found genuine, and is issued by a medical school legally organized and of good standing, of which the State board of examiners shall determine, and if the person presenting and claiming such diploma be the person to whom the same was originally granted, then the State board of examiners shall issue its certificates to that effect signed by not less than five physicians thereof, representing one or more physicans of the schools on the board, and such certificate shall be conclusive as to right of the lawful holder to practice medicine, surgery and obstetrics within this State. If not a graduate, the person practicing medicine or surgery within this State, unless he or she shall have been in continuous practice in this State for a period of not less than five years, of which he or she shall present to the State board of examiners satisfactory evidence in the form of affidavits, shall appear before the said State board of examiners and submit to such examination as said board may require. All examinations shall be conducted in writing, and all examination papers, together with the reports, and action of the examiners thereon, shall be preserved as the records of said board for a period of five years, during which time they shall remain open for inspection at the office of said State board of examiners. Such examinations shall be in anatomy, physiology, general chemistry, pathology, therapeutics and the principles and practice of medicine, surgery and obstetrics: *Provided,* that each applicant, upon receiving from the secretary of the board an order for an examination, shall receive also a confidential number, which he or she shall place upon his or her examination papers so that when said papers are passed upon by the examiners, the latter shall not know by what applicant said papers have been prepared. That upon each day of examination all candidates be given the same set or sets of questions. It is further provided that the examination papers shall be marked upon the scale of one hundred (100), and that in order to secure a license it shall be necessary for the applicant to attain such average as shall hereafter be determined by the State board of examiners, and if such examination be satisfactory to at least five physicians of said board, representing the different schools of medicine on the board, the board shall issue a certificate which shall entitle the lawful holder thereof to all the rights and privileges herein provided, and the physicians and the secretary of the State board of health shall constitute and be deemed a board of examiners for the purpose of this act.

§ 2. The State board of examiners shall procure a seal within sixty days after the passage of this act, and through the secretary of said board shall receive applications for certificates and examinations. The president, or any member of the board, shall have the authority to administer oaths and take testimony in all matters relating to their duties as examiners aforesaid. The board shall provide three forms of certificates; one for persons in possession of genuine diplomas, one for candidates examined by the board, and one for persons who have practiced medicine or surgery in any of its departments for five years as provided in this act. Said certificates shall be signed by not less than five physicians of the board, and this number may act as an examining board in the absence of the full board: *Provided*, that one or more members of the different schools of medicine represented in the State board of health shall also be represented in the board of examiners. The board of examiners shall hold meetings at such places as will best accommodate applicants residing in different portions of the State, and at any such time as they shall deem best, and due notice of the time and place of such meetings shall be published.

§ 3. The board shall examine all diplomas submitted to them for such purpose to determine their genuineness and the rightful ownership of the person presenting the same. The affidavit of the applicant and holder of any diploma that he or she is the person therein named, and is the lawful possessor thereof, shall be necessary to verify the same, with such other testimony of [as] the board may require. Diplomas and accompanying affidavits may be presented in person or by proxy. If the diploma shall be found genuine, and in possession of the person to whom it was issued, the State board of examiners shall, upon the payment of a fee of two dollars, to the secretary of the board, issue a certificate to the holder of such diploma, and no further fee or sum shall be demanded or collected from said applicant by said board for such certificate. If the diploma shall be found to be fraudulent, or not lawfully in possession of the holder or owner thereof, the person presenting such diploma or holding or claiming possession thereof, shall be deemed guilty of a misdemeanor, and on conviction thereof, before any court of competent jurisdiction, be fined not less than twenty dollars nor more than one hundred dollars.

§ 4. Every person holding a certificate issued by the State board of examiners, shall, within sixty days after the date of such certificate, have the same recorded in the office of the county recorder in the county wherein he resides, and should he remove from one county to another to practice medicine, surgery or obstetrics, his certificate must be recorded in the county to which he removes. The county recorder shall endorse upon the certificate the date of record, and he shall be entitled to charge and receive a fee of fifty cents for his services, the fee to be paid by the applicant.

§ 5. The county recorder shall record in a book provided for that purpose, a complete list of the certificates presented for record, and the date of their issue by the State board of examiners. If the certificate is issued by reason of a diploma, the name of the medical college conferring the same, and the date when conferred shall be recorded; and when such certificate shall have been granted upon the examination of the board, or because of five years' practice in the State, such fact shall be recorded. Said records shall be open for inspection during business hours.

§ 6. Candidates for examination shall pay in advance, to the secretary of the State board of examiners a fee of ten dollars, which fee, together with the fees received for certificates, shall defray the entire expense of the aforesaid board of examiners, and the balance shall be turned over to the State treasurer for the benefit of the school fund, except such an amount as will pay each member of the board ten dollars (10) per day during the time he is in actual attendance upon the session of the said board for the purpose of performing the duties required of him under this act, and, as will pay the secretary of the board such a salary as they may allow, not to exceed $5 per day during the time he is actually engaged in performing the work of the board under this act, and each member of the board of examiners shall also receive a sufficient amount to defray his actual and necessary expenses while in the discharge of the duties herein provided. Any one failing to pass the required examination shall be entitled to a second examination within twelve months without fee: *Provided*, that any applicant for examination by notice in writing to the secretary shall be entitled to an examination within three months from the time of said notice, and a failure to give such opportunity shall entitle such applicant to practice without the certificate required by this act until the next regular meeting of said board.

§ 7. The State board of examiners may refuse to grant a certificate to any person who has been convicted of a felony committed in the practice of his profession or in connection therewith, or may revoke certificates for like cause, or for palpable evidence of incompetency, and such refusal or revocation shall prohibit such person from practicing medicine, surgery or obstetrics: *Provided*, such refusal or revocation of a certificate can only be made with the affirmative vote of at least five physicians of the State board of examiners, in which number shall be included one or more members of the different schools of medicine represented in said board: *And provided further*, that the standing of a legally chartered medical college, from which a diploma may be presented, shall not be questioned except by a like vote.

§ 8. Any person shall be deemed as practicing medicine, surgery or obstetrics or to be a physician within the meaning of this act, who shall publicly profess to be a physician, surgeon or obstetrician, and assume the duties, who shall make a practice of prescribing or of prescribing and furnishing medicines for the sick, or who shall publicly profess to cure or heal by any means whatsoever; but nothing in this act shall be construed to prohibit students of medicine, surgery or obstetrics from prescribing under the supervision of preceptors, or gratuitous service in case of emergency, nor shall this act extend to prohibit women who are at this time engaged in the practice of midwifery nor to prevent the advertising, selling or prescribing natural mineral waters flowing from wells or springs, nor shall this act apply to surgeons of the United States army or navy, marine hospital service, nor to physicians as defined herein who have been in practice in this State for five consecutive years, three years of which time shall have been in one locality: *Provided*, such physician shall furnish the State board of examiners satisfactory evidence of such practice, and shall procure the proper certificate, as provided in this act, and for which certificate such physician shall pay the secretary of the State board of examiners a fee of two dollars, and said board shall issue to the applicant such certificate, nor shall this apply to registered pharmacists when filling prescriptions, nor shall it be construed to interfere with the sale of patent or proprietary medicines in the regular course of trade.

§ 9. Any person who shall practice medicine or surgery within this State, without having complied with the provisions of this act, and who is not embraced in any of the exceptions, or after being prohibited from so doing as provided in section 7 of this act, shall be deemed guilty of a misdemeanor, and shall, on conviction thereof, be punished by a fine not less than fifty nor more than one hundred dollars, or by imprisonment in the county jail not less than ten days nor more than thirty days.

§ 10. Any person who shall file or attempt to file, with the State board of examiners, as his or her own, the diploma of another person, or who shall file or attempt to file with the recorder the certificate of another person, as his or her own, or who shall file or attempt to file a diploma or certificate with the true name erased therefrom and the claimant's name inserted, or who shall file or attempt to file any forged affidavit or identification, shall be deemed guilty of the crime of forgery.

§ 11. The penalties, as provided in this act, or violations thereof, shall not be enforced prior to first day of January, A. D. 1887.

§ 12. All acts and parts of acts in conflict with this act are hereby repealed.

STATE BOARD OF MEDICAL EXAMINERS.

J. F. Kennedy, M. D., Secretary, Des Moines, Iowa

As will be seen by reading the "Act to Regulate the Practice of Medicine and Surgery" in the State of Iowa, the physicians of the State Board of Health and its Secretary are made the State Board of Medical Examiners. Their duties are entirely independent of the State Board of Health. By this Act, which went into effect April 9, 1886, every person practicing medicine, surgery or obstetrics within the State is required to have a certificate from the State Board of Medical Examiners. These certificates are of three classes: 1st. For graduates in medicine; 2d. For persons who have been in continuous practice within the State five years, three of which have been in one locality; 3d. For those who shall have passed an examination before the Board of Examiners, giving not less than 80% of correct answers to all questions.

At one of the early meetings of the Board the schedule of "Minimum Requirements" of the Illinois State Board of Health, as to the good standing of medical colleges, was adopted almost verbatim, also the list of medical colleges recognized and not recognized by the same.

The laws of Iowa and Illinois being almost identical, the rules, regulations and forms adopted by the former are similar to those of the Illinois Board.

Under the Pharmacy law of Iowa, itinerants, specialists and venders of drugs, nostrums or anything to treat diseases, or who profess to cure any disease, are required, in addition to the certificate to practice, to pay a license fee of one hundred dollars per year.

The number of applications filed for certificates to October 1, 1886, is 1,517. Of this number 780 have been approved; 691 not yet considered; 26 rejected; 20 pending further investigation. The number of non-graduates examined is 13; of this number 7 were rejected.

Although it is only three months since the Board commenced operations, much good has already resulted from its work.

COLLEGE OF PHYSICIANS AND SURGEONS.

Keokuk, Iowa. J. C. Hughes, M. D., Dean of the Faculty.

Organized in 1850; four years after, it became the Medical Department of the University of Iowa, and upon the organization of the Medical Department of the State University of Iowa, at Iowa City, in 1870, the original name was assumed.

The faculty embraces nine professors, one lecturer and one demonstrator of anatomy.

Course of Instruction: The regular annual session of 1886-87 commenced October 13, 1886, and continues twenty weeks. A three-years' graded course recommended, but not required. Clinics at college infirmary; daily quizzes conducted by the faculty.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, toxicology, clinical medicine and surgery, ophthalmology and otology.

Requirements: For admission, "A diploma from a literary college, academy, high school, or a first-class teacher's certificate, or a matriculation examination in the branches of a good English education."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) three years' study; 5) no thesis required; 6) satisfactory examination, either oral or written, at the discretion of the faculty, in anatomy, physiology and pathology, chemistry, materia medica, therapeutics, practice of medicine and surgery; 7) must have dissected during two courses.

Fees: Matriculation, $5; demonstrator, $5; lectures $20; graduation, $30; hospital ticket, gratuitous.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879-80	266	117	43.9
1881-82	273	126	46+
1882-83	130	54	41.5
1883-84	121	59	48.7
1884-85	93	40	43
1885-86	90	34	37.7

Percentage of graduates to matriculates for past six years, *forty-four*.

IOWA MEDICAL COLLEGE.

Keokuk, Iowa.

Organized in 1858.—Extinct since 1860.

MEDICAL DEPARTMENT, STATE UNIVERSITY OF IOWA.

Iowa City, Ia. R. W. Hill, M. D., Secretary of the Faculty.

Organized in 1870. First class was graduated in 1871. Classes have been graduated each subsequent year.

The faculty embraces seven professors, one demonstrator, four lecturers, and one prosector.

Course of Instruction: The annual graduating session of 1886-87 began September 29, 1886, and closes March 2, 1887. Two courses of study are provided, a two-years' course and a three-years' course, one of which the student is required to select at the beginning of the second year. Daily quizzes; clinics at hospital. Recitations, practical work in laboratory, didactic and clinical lectures constitute the mode of instruction. All students in the advanced classes will receive special practical instruction in physical diagnosis, mechanical obstetrics, application of splints, bandages and surgical dressing.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, insanity, toxicology, ophthalmology and otology.

Requirements: For admission,—"All candidates for admission to the course of medical lectures must give evidence of a good English education. If the applicant is a graduate of a literary or scientific college, or presents the certificate of having passed the entrance examination of such an institution, or the certificate of graduation from a high school or academy, it will be accepted in lieu of an examination. In any other case, the candidate must pass an examination before a committee of the faculty, as follows: A written composition, not to exceed a page of foolscap, on a given subject, which will be the test of orthography, grammar, etc.; an examination in common arithmetic, history of the United States, in geography and elementary physics, or natural philosophy. Students from other schools not requiring preliminary examinations must present credentials, or be examined for admission."

For graduation: 1) twenty-one years of age; 2) unexceptionable moral character; 3) three years' study; 4) two courses of lectures; 5) satisfactory examination in all the branches taught. In cases where the three-term course is adopted, a certificate of time of study is not an absolute requirement.

Fees: Matriculation, $5; lectures, $20; demonstrator, $10; final examinations, $25; hospital, $3.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	82	19	23+
1878-79	92	15	16+
1879-80	126	22	17+
1880-81	149	35	23+
1881-82	151	46	30+
1882-83	162	35	21+
1883-84	142	37	26+
1884-85	116	43	37+
1885-86	99	35	35.3

Percentage of graduates to matriculates for the past nine years, *twenty-five*.

HOMEOPATHIC MEDICAL DEPARTMENT, STATE UNIVERSITY OF IOWA.

IOWA CITY, Ia. A. C. COWPERTHWAITE, M. D., Dean of the Faculty.

ORGANIZED in 1877. The first class was graduated in 1878; classes have been graduated each subsequent year.

The faculty consists of three professors, three lecturers, one curator, and one assistant to the chair of materia medica. The teaching of this department is supplementary, the peculiar views of the school only being taught. The lectures on subjects common to both schools are delivered by the professors in the regular department.

COURSE OF INSTRUCTION: The annual session of 1886-87 commenced October 6, 1886, and closes March 1, 1887. A two-years' course and a three-years' graded course are offered and the student is required to select one or the other upon registration.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene medical jurisprudence, toxicology, ophthalmology and otology, dermatology.

REQUIREMENTS: For admission—Same as in the medical department.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; 5) "must have been engaged in the study of practical anatomy and practical chemistry;" 6) satisfactory examination in all the branches taught in the department. "The final examinations will be conducted in writing, by the faculty of the department, subject to approval or rejection by a board of examiners, selected for that purpose from the homeopathic physicians of Iowa. The *ad eundem* degree in this department may be conferred under the following circumstances: The candidate must be in possession of an accredited diploma, and must present letters from two respectable physicians in regard to his moral character and professional standing. An attendance upon lectures from time to time during the session, and a satisfactory examination must be passed on all subjects taught in the department."

FEES: Matriculation, $5; lectures, $20; demonstrator, $10; graduation, $25; hospital, $3.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	18	1	5.5
1878-79	32	3	9.3
1879-80	47	9	19+
1880-81	60	16	26.6
1881-82	46	15	32.6
1882-83	44	12	27.2
1883-84	35	12	34.2
1884-85	33	10	30.3
1885-86	*29	10	34.4

Percentage of graduates to matriculates for the past nine years, *twenty-five*.

*Not including one graduate who matriculated, and upon whom the *ad eundem* degree was conferred.

IOWA MEDICAL COLLEGE—*Eclectic*.

(*Medical Department of Drake University.*)

DES MOINES, Ia. I. W. MARTIN, M. D., Dean, 327 East Fifth street.

ORGANIZED in 1881 as the Iowa Eclectic Medical College, Medical Department of Drake University; assumed its present name in 1883. The first class was graduated in 1882.

The faculty embraces ten professors and two lecturers.

COURSE OF INSTRUCTION: One graduating session of twenty weeks annually. The session of 1886-87 commenced October 4, 1886.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics, gynecology, hygiene, medical jurisprudence, dental pathology, toxicology, laryngoscopy, diseases of the throat and lungs, clinics at college and dispensary.

REQUIREMENTS: For admission—"All candidates for matriculation must submit to a literary examination in conformity with the requirements of the Iowa State Board of Health."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) must have read medicine three years and attended two full courses of lectures, not in the same year; 4) dissection for two terms; 5) satisfactory examination in anatomy, chemistry, materia medica and therapeutics, obstetrics, physiology, practice of medicine and surgery, either written or oral, at discretion of the faculty.

FEES: Matriculation, $5; lectures, $25; demonstrator, $5; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
Jan. to June, 1882.	25	7	28
Sept. 1882, to June 1883	19	—	——
Jan. to June 1883,	19	8	42+
Sept. 1883 to Jan. 1884	21	4	19+
Jan. to June 1884*	13	3	23+
1884-85	21	10	47.6
1885-86	31	10	32.2

Percentage of graduates to matriculates during the past three sessions, *thirty-five*.

*Two graduating courses in one year.

IOWA COLLEGE OF PHYSICIANS AND SURGEONS.

Des Moines, Ia. Lewis Schooler, M. D., Dean.

Organized in 1882. The first class was graduated in 1883.

The faculty embraces twelve professors, three lecturers and one demonstrator.

Course of Instruction: The fourth annual session commenced October 5, 1886, and closes March 4, 1887. A three years' graded course recommended, but not required. Clinics at hospital and dispensary.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, toxicology, histology, ophthalmology, otology, diseases of children and orthopedic surgery, laryngology, dermatology and genito-urinary diseases.

Requirements: For admission—"Students desiring to enter this college shall present; 1st, a credible certificate of good moral character; 2d, a diploma of graduation from a good literary and scientific college, or high school, or a first-grade teacher's certificate; or lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition and elementary physics or natural philosophy."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; 5) satisfactory examination in the several branches taught in the college; 6) one course in practical anatomy.

Fees: Matriculation, $5; lectures, $45; graduation, $25; laboratory (optional) $5; anatomical material at cost. Dissecting material at cost.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-83	9	3	33.3
1883-84	19	8	42.1
1884-85	31	13	42.
1885-86	46	10	21.7

Percentage of graduates to matriculates for past four years, *thirty-two*.

KING ECLECTIC MEDICAL COLLEGE.

Des Moines, Ia. O. H. P. Shoemaker, M. D., Dean, 319 Walnut street.

Organized in 1883. The first class was graduated in 1884.

The faculty embraces fifteen professors, three adjunct professors and one demonstrator.

Course of Instruction: One session annually; the present session began October 6, 1886, and continues twenty weeks. A three years' graded course is recommended, but not required. Clinics at the college and hospital.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence and hygiene, toxicology, diseases of the nervous system, ophthalmology and otology, dental pathology and surgery.

Requirements: For admission—"No previous reading or study is required before entering college. Students will be admitted without reference to the school of medicine they have attended, or the preceptor with which they have studied; but must have credible certificates of good moral character. Some of the States have enacted laws requiring students not provided with a literary degree, or other certificates of scholarship necessary to the study of medicine, to undergo an examination before a State board in the subject of such preliminary study, as a prerequisite for a license to practice medicine within their borders. That the graduates of this college may be spared the trouble incident to compliance with these regulations, all students intending to engage in practice in those States will have the opportunity of undergoing such examination before a committee of the faculty, and will receive a certificate therefor. The examination will include all branches requisite to a good English education, comprising mathematics, composition and elementary physics."

For graduation: 1) "Candidates must be twenty-one years old, of good moral character, have read medicine three years and attended two full courses of lectures, not in the same year; or have read two years and attended three courses of lectures; or have attended four courses of lectures without previous reading;" 2) dissected for at least two terms; 3) "they must pass a satisfactory examination in anatomy, chemistry, materia medica and therapeutics, obstetrics and gynecology, physiology, principles and practice of medicine, hygiene and surgery, either written or oral, at the discretion of the dean."

FEES: Matriculation, $5; lectures, $25; dissection, $10; graduation, $25; scholarship, $50.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	31	9	29+
1884-85	33	5	15
1885-86	*36	5	13.8

Percentage of graduates to matriculates for past three years, *nineteen.*

*The number of matriculates and of graduates for 1885-86 were not received in time to include them in the table in the preliminary part of this section.

KANSAS.

KANSAS MEDICAL COLLEGE.

INDEPENDENCE, Kansas.

ORGANIZED in 1872. Was in existence three years and had two graduating classes.—Extinct in 1875.

UNIVERSITY OF KANSAS, MEDICAL DEPARTMENT.

LAWRENCE, Kas, J. A. LIPPINCOTT, A. M., D. D., Chancellor of the University.

ORGANIZED in 1880.

COURSE OF INSTRUCTION: Two terms of twenty weeks' duration annually, making a preparatory medical course which is claimed to be "accepted by all the leading colleges of the West as the first of a three-years' course, and students passing examinations in these classes will be admitted to the second year in those colleges on the certificate of the faculty of this institution." The session of 1886-87 began September 8, 1886.

First term—Chemistry lectures and recitations daily, for twenty weeks; laboratory practice for twenty weeks; physiology lectures daily, for ten weeks; comparative anatomy, dissections, etc., etc., ten weeks. Second term—Chemistry lectures and recitations for twenty weeks; botany recitations and laboratory practice daily, for twenty weeks; physiological chemistry recitations and laboratory practice for twenty weeks; toxicology ten weeks; materia medica recitations and lectures, with laboratory practice, the compounding of drugs, twenty weeks.

REQUIREMENTS: A full collegiate course is recommended for all professional students. Any student admitted to the special course in medicine must be prepared for at least the freshman class in all English studies.

KENTUCKY.

MEDICAL DEPARTMENT OF TRANSYLVANIA UNIVERSITY.

LEXINGTON, Ky.

ORGANIZED in 1817. Lectures were delivered at Lexington until 1859, when the institution became extinct. From 1850 to 1859 lectures were delivered during the summer only, the winter session being intermitted to establish the Kentucky School of Medicine, at Louisville.

UNIVERSITY OF LOUISVILLE, MEDICAL DEPARTMENT.

LOUISVILLE, KY. J. M. BODINE, M. D., Dean, Eighth and Chestnut streets.

ORGANIZED in 1837. No lectures were delivered from June, 1862, to June, 1863, and no class was graduated in 1863.

The faculty embraces eight professors, one lecturer, one demonstrator and two assistant demonstrators, and five special demonstrators and assistants.

COURSE OF INSTRUCTION: The forty-ninth regular annual session began September 27, 1886, and continues until March 1, 1887. A preliminary session began September 6, 1886, and continued until the opening of the regular session. The spring course for 1887 will commence on the third of March and terminate on the first of June. Clinics given at dispensary and hospitals. Frequent quizzes are conducted by the faculty.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene and medical jurisprudence, clinical medicine and surgery, diseases of children, microscopy, diseases of the throat and chest, ophthalmology and otology.

REQUIREMENTS: For admission, "Some of the States have recently enacted laws, by the requirements of which students not provided with literary degrees, or other certificates of scholarship necessary to the study of medicine, must undergo an examination before a State board in the subjects of such preliminary study, as a prerequisite for a license to practice medicine within their borders. That the graduates of this college may be spared the trouble incident to compliance with these regulations, all students intending to engage in practice in those States and such others as may desire it, will have the opportunity of undergoing such an examination before a committee of the faculty, and will receive a certificate therefor."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years study; 4) two complete courses of lectures; 5) one course of practical anatomy; 6) one course of clinical instruction; 7) examination in all the branches taught in the college.

FEES: Matriculation, $5; lectures, $75; demonstrator, $10; hospital, $5; graduation, $30 special courses on surgical dressings and ophthalmoscopy, etc., $5 each.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	200	69	34+
1878-79	210	84	40
1879-80	244	95	38+
1880-81	213	100	47+
1881-82	181	96	53+
1882-83	194	68	35+
1883-84	197	84	42.6
1884-85	173	74	42.7
1885-86	164*	81	49.3

Percentage of graduates to matriculates for the past nine years, *forty-two*.

*Not including five graduates who matriculated.

ECLECTIC MEDICAL COLLEGE.

LOUISVILLE, KY.

CHARTERED in 1848.—Extinct.

KENTUCKY SCHOOL OF MEDICINE.

LOUISVILLE, KY. WM. H. WATHEN, M. D., Dean, Fourth Avenue and Chestnut street.

ORGANIZED in 1850. The first class was graduated in 1851. Classes have been graduated each subsequent year.

The faculty embraces eight professors, three lecturers, and one demonstrator.

COURSE OF INSTRUCTION: The thirty-first annual session begins February 9, 1887, and will continue twenty weeks. The preliminary session begins February 1 and ends February 9. A three-years' graded course is recommended, but not required. Clinics at hospital and college. "Each professor quizzes the class on his own lectures as they proceed."

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, microscopy, ophthalmology, otology, laryngology, dermatology, venereal diseases, diseases of children, diseases of the rectum, clinical medicine and surgery.

Requirements: For admission, "No reading or studying of medicine is required before entering college. Students who fail to bring with them proper evidence of their preliminary education are required to pass a satisfactory examination, before a committee of the faculty, in mathematics, English composition, elementary physics, etc.; any student holding a diploma from a good literary or scientific school, or a first-grade teacher's certificate, will be excused from this examination."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures, the interval between the beginning of the first and the close of the second course must be at least fifteen months; 4) "dissection of the several regions of the body;" 5) hospital clinics each year of attendance; 6) one course in practical chemistry; 7) examination on all branches taught in the college. "If, after examination for the degree, he be found to have received three negative votes, he shall be entitled to another examination. Should he deline this he may withdraw, and will not be considered as rejected. The degree will not be conferred upon any candidate who is often absent from the regular lectures of the college, or who absents himself from the public commencement without special permission of the faculty."

Fees: Matriculation $5; demonstrator, $10; hospital, $5; lectures, $75; graduation, $30; laboratory, $5.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879	136	43	31+
1880	107	43	40+
1882	132	55	41+
1883	158	51	32+
1884	159	55	34.5
1885	120	56	46.6
1886	175	60	34.2

Percentage of graduates to matriculates for the last seven years, *thirty-six*.

LOUISVILLE MEDICAL COLLEGE.

Louisville, Ky. C. W. Kelley, M. D., Registrar, Second and Green streets.

Organized in 1869. The first class was graduated in 1870. Classes have been graduated each subsequent year.

The faculty embraces nine professors, two lecturers, one adjunct and one demonstrator.

Course of Instruction: The collegiate year of 1886-87, which began September 6, 1886, embraces a preliminary course of four weeks and a regular winter session extending from October 4, 1886, to the last week in February, 1887. Daily quizzes are held by the faculty. "The plan of instruction includes lectures, clinics, quizzes and practical demonstrations."

Lectures embrace anatomy, physiology, chemistry, materia medica, and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene and medical jurisprudence, clinical medicine and surgery.

Requirements: For admission, "A preliminary examination will be required hereafter, as a condition of admission to the regular winter course. Gentlemen who are graduates of a literary or scientific college, academy, or high school, or who have passed the entrance examination to a literary school in good standing; who have a county or State teacher's certificate; graduates in medicine; previous matriculates of this college; and students who desire to pursue a special course of study—other than for the purpose of securing the degree—will be exempt from this examination. The examination will include the writing of a brief paper on a subject to be given; and an examination in the elementary principles of physics and mathematics as taught in the public schools of the country."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures (not within the same twelve months); 5) two courses of hospital clinics; 6) dissection of each region of the body; 7) one course in practical chemistry; 8) satisfactory written or oral examination on each branch taught.

Fees: Matriculation, $5; demonstrator, $10; lectures, $50; examination, $30; hospital, $5,

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	149	70	46+
1878-79	136	61	44+
1879-80	129	56	43+
1880-81	116	54	47+
1881-82	125	54	43+
1882-83	157	51	32+
1883-84	267	76	28.5
1884-85	203	63	31
1885-86	230	85	36.9

Percentage of graduates to matriculates for the past nine years, *thirty-seven.*

HOSPITAL COLLEGE OF MEDICINE.

Medical Department, Central University.

LOUISVILLE, KY. WM. H. BOLLING, M.D., President, Chestnut street, near Preston.

ORGANIZED in 1873. First class was graduated in 1875. Classes have been graduated each subsequent year.

Faculty embraces eight professors, three lecturers, six assistants, and one demonstrator.

COURSE OF INSTRUCTION: The fifteenth annual graduating course begins January 20, 1887, and ends June 16, 1887. The clinics continue throughout the year.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene medical jurisprudence, ophthalmology, otology and laryngology, toxicology, clinical medicine and surgery; diseases of children, orthopedic surgery, surgical pathology, diseases of the rectum, normal and pathological histology, including a study of bacterial pathology.

REQUIREMENTS: For admission—1) "credible certificate of good moral character; 2) diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate; or, lacking this, an examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) "satisfactory evidence of having studied medicine for at least three years, under a regular graduate or licentiate and practitioner of medicine, in good standing, using the word "regular" in the sense commonly understood in the medical profession. No candidate shall be eligible for final examination unless his term of three years shall have been completed, or shall expire at a date not later than three months after the close of the final examinations;" 4) two complete courses of lectures (not within one and the same year); 5) practical anatomy, two sessions; 6) two courses of clinical and hospital instruction; 7) regular attendance upon the daily lectures, quizzes and clinics; 8) examination on all branches taught in the college.

FEES: Matriculation $5; lectures, $75; demonstrator, $10; dissecting material at cost; hospital, $5; graduation, $30; "unofficial course for students who have attended one course of lectures in winter schools, not entitling to graduation, $30."

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1878	64	19	29+
1879	87	24	27+
1880	95	38	40
1881	77	31	40+
1882	75	36	48
1883	87	31	35+
1884	57	31	54.4
1885	50	26	52
1886	39	18	48.7

Percentage of graduates to matriculates for the past nine years, *forty.*

REMARKS: "To encourage diligence in study and reward the meritorious, the Faculty have established the Roll of Honor, open to any candidate for graduation who will undergo written examinations and attain a standard of ninety in one hundred. The diplomas will be marked DISTINGUISED, and the names will be so published in the list of the alumni of the college."

JEFFERSON SCHOOL OF MEDICINE.

LOUISVILLE, KY.

ORGANIZED in 1882. This school graduated one class (in 1882). and then suspended operations.

LOUISIANA:

MEDICAL DEPARTMENT, TULANE UNIVERSITY OF LOUISIANA.

[Formerly (1847–84) the University of Louisiana.]

NEW ORLEANS, La. STANFORD E. CHAILLE, M. D., Dean of the Faculty, P. O. drawer 261.

ORGANIZED in 1834 as the Medical College of Louisiana. Transferred to the Medical Department of the University of Louisiana in 1847. The civil war caused a suspension during the years 1863, 1864 and 1865. This institution was reopened and its annual course of instruction resumed in October, 1865. In 1884 it assumed its present title.

The faculty embraces seven professors, two lecturers, two demonstrators and ten chiefs of clinics.

COURSE OF INSTRUCTION: The annual course of instruction in this college, now in its fifty-third year, commenced October 18, 1886, and closes March 30, 1887. A three-years' graded course is recommended but not required. Daily rounds of the Charity Hospital wards are made by all the professors and chiefs of clinics, accompanied by the students.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, ophthamology, otology, pharmacy, clinical medicine and surgery, diseases of children and dermatology.

REQUIREMENTS: For admission, none—For graduation: 1) good moral character; 2) twenty-one years of age; 3) three years' study; 4) two complete courses of dissection; 5) thesis; 6) pass satisfactory examination.

FEES: Matriculation, $5; lectures, $140; demonstrator, $10; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1880-81	*204	41	20
1881-82	*220	†56	25.4
1882-83	*212	73	34.4
1883-84	*212	†70	33—
1884-85	192	64	33
1885-86	‡208	~~78~~ 67.	~~37.5~~ 32.2.

Percentage of graduates to matriculates for past six years, ~~thirty~~. 29.

*Includes pharmacy students.

†Includes pharmacy graduates.

‡Not including 28 graduates who matriculated.

NEW ORLEANS SCHOOL OF MEDICINE.

NEW ORLEANS, La.

ORGANIZED in 1856.—Extinct since April, 1870.

CHARITY HOSPITAL MEDICAL COLLEGE.

NEW ORLEANS, La.

ORGANIZED in 1873.—Extinct since 1877.

MEDICAL DEPARTMENT OF THE NEW ORLEANS UNIVERSITY.

MEDICAL DEPARTMENT OF STRAIGHT UNIVERSITY.

NEW ORLEANS, La.

"Both are for colored students, and open to males and females. I do not know that any medical diplomas have actually been issued from either. If so, we could not recognize them here, for they certainly have not given such courses of instruction as to qualify men or women to practice medicine." (*Official letter, Louisiana State Board of Health.*)

MAINE.

MEDICAL SCHOOL OF MAINE, AT BOWDOIN COLLEGE

BRUNSWICK, Me. ALFRED MITCHELL, M. D., Secretary.

ORGANIZED in 1820. The first class was graduated in 1820. Classes have been graduated each subsequent year.

The faculty embraces nine professors and two demonstrators.

COURSE OF INSTRUCTION: One annual course of lectures of twenty weeks' duration, commencing February 3, 1887, and ending June 23, 1887. Clinics are given once a week. Daily examinations are made by the faculty.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence, hygiene and histology.

REQUIREMENTS: For admission—"Candidates for matriculation will be required to give evidence that they possess a good English education. Those who are graduates of colleges, normal schools, high schools, or who have passed the entrance examination to any recognized college, on presentation of their diplomas or matriculation tickets, will be exempt from examination."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study under a regular practitioner, and two full courses of lectures; 4) satisfactory written and oral examination on subjects of the lectures; 5) thesis.

FEES: Matriculation, $5; lectures, $78; graduation, $25; laboratory, $10.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1878	94	25	26.6
1879	99	31	31.3
1880	105	22	21—
1881	115	30	26+
1882	104	28	27—
1883	94	28	29 7
1884	99	33	33.3
1885	66	14	21.2
1886	85	20	23 5

Percentage of graduates to matriculates for the past nine years, *twenty-six*.

PORTLAND SCHOOL FOR MEDICAL INSTRUCTION.

PORTLAND, Me. C. O. HUNT, M. D., Registrar.

ORGANIZED in 1855. No diplomas are conferred. "The aim of the school is to afford to medical students greater facilities for obtaining a higher grade of professional education than can usually be given under the direction of a single preceptor."

The faculty embraces ten instructors and one demonstrator.

COURSE OF INSTRUCTION: Two terms of thirteen weeks each, annually.

Systematic recitations will be held in anatomy, materia medica and therapeutics, theory and practice of medicine, surgery, chemistry and obstetrics.

Lectures embrace, in addition to the foregoing subjects, physical diagnosis, minor and operative surgery, gynecology, physiology and dentistry.

Requirements: For admission—"Students will be required to satisfy the instructors that they are possessed not only of a good common-school education, but also of such familiarity with the Latin language as may be acquired by the study of Harkness's Introductory Latin Book and of a knowledge of physics equal to that which may be got from Norton's Elements of Natural Philosophy. The fact of graduation from a college or from a high school or academy, whose curriculum requires the study of these books or the equivalent, will be taken as evidence of these acquirements; but in the absence of such evidence a written examination will be held in which the orthography and syntax will be taken into account. A practical acquaintance with the metric system must be possessed on entrance or made up within the first month of study in the school."

Fees: For summer term, $35; for winter term, $40; for the year, $60; demonstrator, $7.

ECLECTIC MEDICAL COLLEGE OF MAINE.

Lewiston, Me.

Organized in 1881, to "supply a demand for Eclectic medical teaching in New England."

The faculty embraces seven professors, two of whom are not medical men.

Course of Instruction: The sixth lecture session begins January 3, 1887, and continues sixteen weeks.

Lectures embrace anatomy, chemistry, materia medica and specific medication, physiology and mental diseases, theory and practice of medicine, principles and practice of surgery, obstetrics and gynecology, diseases of women and children, medical jurisprudence and clinical medicine and surgery.

Requirements: For admission—"Applicants for admission to this college must be eighteen years of age, and unless they are graduates from some college, normal school, academy or high school, will be *expected* to possess a good common school education."

For graduation: "Candidates for the degree of Doctor of Medicine must give the faculty satisfactory evidence that they have studied medicine *three full years* under the direction of a physician who is himself a graduate of some chartered medical college, attended two full courses of medical lectures, present a certificate of good moral character, present to the dean, with the graduating fee, two weeks at least before the close of the session, an original thesis upon some medical topic, and pass a satisfactory examination in anatomy, physiology, surgery, chemistry, obstetrics, materia medica, therapeutics, theory and practice in medicine and medical jurisprudence."

Fees: Matriculation (paid but once), $5; lectures, $65; demonstrator's ticket, $10; graduation, $25. "Female students will be admitted for half of the above fees, paying full fee for matriculation and graduation only."

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	23	3	13
1882-83	38	14	37
1883-84	24	7	29
1884-85	10	11	110
1885-86	25?	5	20

Remarks: In the first years of its existence this institution evidently acted in good faith, but from the above statement, taken from its last announcement, and from other information obtained, it does not appear to be doing so at the present time. It has been repudiated by the Maine Eclectic Medical Society, the Massachusetts Eclectic Medical Society and the National Eclectic Medical Society. A movement is now on foot to have its charter annulled, and this should be done as soon as possible.

The last course of lectures was delivered by only three professors, two of them recent graduates of the school. Diplomas not recognized.

THE DRUIDIC UNIVERSITY OF MAINE.

Lewiston, Me. C. P. Davidson, M. D., Rector.

"The Gorsedh of Maine was inaugurated in 1874; it has holden its sessions regularly ever since. It was incorporated (along with its University Branch) in 1880, by an act of the Maine Legislature. Its corporate existence is perpetuated, not by University labors, but by due performance of the ancient *rites* at the stated seasons. The incorporators were and are the total of members composing the Gorsedh of Maine."*

The faculty embraces nine professors, and one demonstrator of electricity and magnetism.

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*The Gorsedh is the educational repository of the United Ancient Order of Druids.

Course of Instruction: "The annual course of lectures of the Druidic University of Maine commences at Lewiston on June 21, 188-, and closes June 21, 188-."

"The instruction at this University consists of didactic lectures, chemical teaching, recitations, and practical teaching on subjects involving manifestations, including medical and surgical electricity in all its forms."

Lectures embrace materia medica and temperance physiology, gynecology, ophthalmic and otic surgery, obstetrics, diseases of women and children, anatomy, and physiology, medical and surgical electricity, hygiene, chemistry, medical jurisprudence, principles and practice of medicine, methods and practice of surgery, unrinology, pharmacy, operative dentistry, and demonstrations of electricity and magnetism.

Requirements: For admission—"Candidates for admission must give evidence of good moral character, and of having had the advantages of at least a good common school education. A knowledge of the rudiments of the Latin language is desirable."

For graduation: "Candidates for the degree of Doctor of Medicine must be twenty-one years of age and of good moral character. Students attending any other institution with a view to qualifying themselves for graduation at this University, shall do so under *the direction of a Druidic preceptor, who shall furnish them with a certificate of attendance, which will be taken as evidence of qualification and time.* They must present an original thesis on some medical subject, and pass a satisfactory examination in 1) anatomy; 2) physiology; 3) chemistry; 4) obstetrics; 5) materia medica and therapeutics; 6) surgery; 7) pathology and practice of medicine."

Fees: "Matriculation fee, $5; practical anatomy, $10; lectures for one session, $75; lectures for second session, $75; students, by purchase of the perpetual lecture ticket, will reduce the amount to $125; and diploma free.

"Graduates of other chartered colleges intending to graduate from this University must pay for tuition $40. Male and female students admitted on equal terms. Time for graduation, June 21 every year, at Lewiston, Me."

"Special for Students: The instructors and examiners of the University shall be super-graduates of the University. Super-graduates are authorized to *instruct students either at his own residence or elsewhere, and to furnish them with certificates of attendance.*"

"*School for Medical and Surgical Nursing* in all its branches, at the Druidical University, 59 Park street, Lewiston, Me. Instructions will be given by medical faculty of the University and of the Maine Medical Infirmary or Hospital" (York's Institution).

After reciting what is to be taught and giving the requirements and fees, the following statement is made: "*When a person graduates in nursing, it is really graduating in medicine and surgery, with specific limitations.*"

From a supplement to the annual announcement for the course of 1885-86, issued during midsummer, 1885, the following extracts are taken: "The individual chairs of Preceptors are considered as Academies of Learning, combining duties and studies which are purely Bardic with those that belong to the Adjuncts; ('the Seminaries, Academies and Colleges of Instruction') for time of connection therewith, students get full credit."

"The Rector of the Faculty is an intermediary between the President (or managing Vice-President) and the professional staff; and his duty is to guide and control the course of teaching."

"*Diplomas and certificates can be issued by the President or managing Vice-President, signed and sealed by himself.*" "Members of the faculty, as such, may sign cards of attendance, but not diplomas."

"Degrees: All university studies and trainings have five degrees, namely: those of Assistants; the Bachelor; the Master; the Junior Doctor, and the Senior Doctor. Previous study and experience are to be taken into account in the case of each candidate, and credit allowed for the same. Physicians and surgeons, literati, lawyers, etc., by the provisions of section 22 of the charter, have the privilege of presenting themselves for examination at midsummer. The previous studies and experience (with the period thereof) of each candidate should be timely reported to the Arch Bard, whose part it is to interpret laws and usages relative thereunto."

Attendance at a hospital is commanded in Sec. 21 of the charter, that the student may be furnished with clinical experience. For that purpose the Medical Infirmary of the City of Lewiston* (incorporated by the legislature in 1871) is both suitable and convenient, and its rooms are now dedicated to the service of the university.

Remarks: In the report on Medical Education for 1883, this institution was alluded to, but in that for 1884 it was omitted. Attention has been called to it by the presentation in Indiana of one of its diplomas, by a man who recently left this State not being able to comply with the requirements of this Board, and who could not have attended one of their annual courses during the time which elapsed between his departure from this State and the presentation of his diploma in Indiana.

The following is taken from the Portland Press of Sept. 2, 1886:
"Dr. D. H. Owen, President of the Druidic Corporation and College in Maine, has withdrawn and canceled the dispensation granted by him in 1882, enabling that body to locate at Lewiston. It now returns home to the chair of Penobscot on the Mattawamkeag waters, at Sherman and Island Falls, where it was first assembled after incorporation. By this action the current medical prospectus of the corporation becomes inoperative."

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*Dr. Samuel York is the proprietor of this Infirmary; he is also Vice-President and one of the professors in the University.

MARYLAND.

UNIVERSITY OF MARYLAND, SCHOOL OF MEDICINE.

BALTIMORE, Md. J. EDWIN MICHAEL, M. D., Dean.

ORGANIZED in 1807, as the Medical College in the City of Baltimore. In 1812, faculties of law, theology and arts were added, and the whole chartered under the name of the University of Maryland. The degree of M. D. was conferred in 1810, and degrees have been conferred each year since.

The faculty embraces ten professors, four lecturers, five demonstrators, three prosectors, and ten dispensary physicians and chiefs of clinics.

COURSE OF INSTRUCTION: The eightieth annual session began October 4, 1886, and closes about the end of March, 1887. Clinical lectures, introductory to the regular session, were held through September. A three years' course recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics, gynecology, hygiene, toxicology, ophthalmology, otology, diseases of the throat and chest, diseases of children, diseases of the nervous system, dermatology, clinical medicine and surgery.

REQUIREMENTS: For admission, none.

For graduation: 1) twenty-one years of age; 2) two full courses of lectures; 3) thesis; 4) evidence of attendance on clinical lectures on medicine and surgery; 5) practical anatomy course; 6) good moral character; 7) faithful and regular attendance on lectures and clinics: 8) examination in all the branches taught.

FEES: Matriculation, $5; lectures, $120; demonstrator, $10; graduation, $30. "In accordance with a usage which has arisen in other schools, a number of scholarships have been created, to which are appointed students unable to pay the full rates. The holders of these scholarships pay only $60 for the professors' tickets.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	135	49	36.2
1878-79	134	53	40+
1879-80	173	66	48+
1880-81	193	73	37.9
1881-82	197	73	37.8
1882-83	203	97	47.7
1883-84	188	74	39.3
1884-85	200	75	37.5
1885-86	*198	78	39.3

Percentage of graduates to matriculates for the past nine years, *thirty-nine*.

*Not including three graduates who matriculated.

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE.

BALTIMORE, Md.

ORGANIZED in 1827, as the Medical Department of Washington College, Pennsylvania. The first class was graduated in 1828, and classes were graduated under the auspices of Washington College until 1840, when the Maryland Legislature empowered the institution to assume the above title. Lectures were delivered and classes graduated until 1851, when it became extinct. In 1867 the institution was reorganized and lectures were thence delivered until 1877, when the institution was merged into the College of Physicians and Surgeons, Baltimore (*vide infra.*)

COLLEGE OF PHYSICIANS AND SURGEONS.

BALTIMORE, Md. THOMAS OPIE, M. D., Dean, 197 North Howard street.

ORGANIZED in 1872. The first class was graduated in 1873. Classes have been graduated each subsequent year. In 1877 the Washington University School of Medicine was united with this college.

The faculty embraces twelve professors, two lecturers and four demonstrators.

COURSE OF INSTRUCTION: Two courses of lectures are given during the year. The winter graduating sessions of 1886-87 began October 1, 1886, and will end March 15, 1887. The spring course begins March 16, 1887, and continues until June 16. A three years' graded course is recommended, but not required. Clinics in hospitals and dispensary.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology, otology, pharmacy, dental surgery, diseases of the chest and throat, diseases of children, diseases of the nervous system, genito-urinary diseases, pathological histology, orthopedic surgery, and clinical medicine and surgery.

Requirements: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) good English education; 4) three years' study; 5) satisfactory examination.

Fees: Matriculation, $5; lectures, $120; graduation, $30; laboratory materials, $4; spring term, $15.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	165	65	39.9
1878-79	211	80	38—
1879-80	336	110	37.7
1880-81	328	143	43.6
1881-82	316	158	45.7
1882-83	322	109	33.9
1883-84	400	127	31.7
1884-85	426	155	36.3
1885-86	*341	149	45+

Percentage of graduates to matriculates for past nine years, *thirty-eight.*

*Not including four graduates who matriculated.

BALTIMORE MEDICAL COLLEGE.

Baltimore, Md. William Lee, M. D., Dean, S. E. cor. Eutaw and Hoffman streets.

Organized in 1881. First class graduated in 1882, and classes have been graduated each subsequent year.

The faculty embraces thirteen professors, three lecturers and one demonstrator.

Course of Instruction: The sixth annual session began October 1, 1886, and continues until the last of March, 1887. "A spring course commencing April, 1887, and ending June 10, will be held for those wishing to continue their studies, but is not recognized as a regular course."

Lectures embrace surgery, anatomy, pathology, chemistry, materia medica and therapeutics, theory and practice of medicine, physiology, obstetrics, orthopedic surgery, gynecology, diseases of children, hygiene and sanitary science, medical jurisprudence, ophthalmology and otology, diseases of the nose, throat and chest, diseases of the nervous system and insanity, diseases of the genito-urinary organs, microscopy, and the usual clinics held in every school.

Requirements: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) regular attendance upon lectures; 5) satisfactory examination; 6) thesis.

Fees: Matriculation, $5; demonstrator, $10; lectures, $120; graduation, $30.

"Special privileges are sometimes granted to poor but deserving young men in conformity with the usages of the times, and these are only required to pay one-half the regular fees."

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	46	17	38.2
1882-83	52	20	38.4
1883-84	28	14	50
1884-85	25	8	32
1885-86	40	8	20

Percentage of graduates to matriculates for past five years, *thirty-five.*

WOMAN'S MEDICAL COLLEGE OF BALTIMORE.

BALTIMORE, Md. RICHARD HENRY THOMAS, M. D., Dean, 207 N. Howard street.

ORGANIZED in 1882. The first class was graduated in 1883.

The faculty embraces ten professors, three lecturers, one demonstrator, three instructors and ten clinical assistants.

COURSE OF INSTRUCTION: One annual graduating session; that of 1886-87 began October 1, 1886, and continues until the 1st of May, 1887. The course of study is graded and a three-years' course is recommended, but students are allowed, upon preceptor's certificate of twelve months' medical study, to pursue a two years' graded course.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, principles and practice of medicine, pathology, surgery, obstetrics, gynecology, hygiene, medical jurisprudence, ophthalmology and otology, diseases of throat and chest, diseases of children, pharmacy, clinical medicine and surgery.

REQUIREMENTS: For admission—"Every student entering this institution will be required to present, 1) a credible certificate of good moral character; 2) a diploma from a respectable institution of learning or a first-grade teacher's certificate. Lacking this, she must pass a satisfactory examination before a committee of the faculty on the usual elementary English branches taught in public schools, viz: English grammar, history, geography, arithmetic, elementary physics and composition."

For graduation: 1) twenty-one years of age; 2) three full courses of lectures, or two full courses of lectures after one year's study under a preceptor; 3) one full dissection; 4) evidence of having attended the clinics; 5) examination on all the branches; 6) good moral character.

FEES: Matriculation, $5; lectures, $60; demonstrator, $10; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-3	19	1	5 2
1883-4	22	5	22.7
1884-5	9	4	44.4
1885-6	14	3	21.4

Percentage of graduates to matriculates for the past four years, *twenty*.

BALTIMORE UNIVERSITY SCHOOL OF MEDICINE.

BALTIMORE, Md. Z. K. WILEY, M. D., Dean, 195 W. Lombard street.

ORGANIZED in 1884. First class graduated in 1885. The faculty embraces twelve professors, one demonstrator and three clinical assistants.

COURSE OF INSTRUCTION: One annual graduating session; that of 1886-87 opened October 1, 1886, and will terminate about the 15th of March, 1887. A short course of preliminary lectures preceded the regular term.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics, gynecology, microscopy, diseases of throat and lungs, nervous diseases, ophthalmology and otology, diseases of women, diseases of children, dermatology, medical jurisprudence.

REQUIREMENTS: For admission, "Students must be possessed of good moral character, and, unless matriculates of some literary institution or medical college, will be required to furnish sufficient evidence of possessing a good English education."

For graduation, candidates must have attended at least two courses of lectures. "The fitness of a candidate for graduation will be based upon good moral character and regular attendance upon instruction afforded by the college, and upon the result of a final examination, to be determined by a majority of all the votes of the faculty."

FEES: Matriculation, $5; demonstrator, $10; lectures, $120; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1884-85	15	6	40
1885-86	33	17	51.5

Percentage of graduates to matriculates for past two years, *forty-eight*.

JOHNS HOPKINS UNIVERSITY, MEDICAL DEPARTMENT.

BALTIMORE, Md. D. C. GILMAN, LL. D., President of the University.

A PRELIMINARY course of training for young men who propose to pursue the study of medicine, was instituted in 1877. Physics, chemistry and biology, with Latin, German, French and English, form the principal elements of this course, with opportunities for study of psychology, logic, history, and other branches of knowledge, according to the requirements of the scholar.

"Opportunities are here afforded to a young man, who expects at a later day to take up the study of medicine, to become proficient in laboratory work while acquiring a knowledge of German and French, and continuing his general education. A course is arranged, in which physics for the first year, chemistry for the second, and biological study of plants and animals for the third year, are the dominant topics. At the close of this course the student should have become proficient in a knowledge of the physical and chemical laws which underlie the conditions of life; he should have become familiar with the structure and functions of living things in their normal and healthy condition; he should have become skilled in the use of the microscope and other physiological apparatus; and so, when he enters the school of medicine he should know that he has been well prepared for the study of disease and of its treatment, by a training in fundamental sciences which has not only exercised his eye and hand, but has accustomed his mind to accurate habits of observation and inquiry." This course is one of seven groups of studies which lead to the university degree of Bachelor of Arts.

The latest official utterance with respect to the organization of the Medical Department is as follows: "It is generally known that since the beginning of this university a medical school has been projected. Now that the large Johns Hopkins Hospital approaches completion, and thirteen admirable buildings are being fitted for their humane purposes, the thoughts of the administration are constantly occupied with the provisions here to be made for advancing those departments of knowledge which pertain to the relief of suffering, the prevention of disease and the promotion of physical well-being. It is for this reason that already so much attention has been given to the biological sciences and to courses of study which may fit young men for the successful prosecution of their subsequent professional work. We are nearly ready to take the next step forward. Two sorts of professors are called for in such a medical school as we propose to establish,—those who give all their time to the development of some branch of medical science without engaging in practice; and those who, by the constant observation and treatment of disease at the bedside, are best fitted for practical instruction and clinical advice. With the university professors of chemistry and biology, and the medical adviser of the hospital, a professor of pathology is now associated, and negotiations are in successful progress with a professor of therapeutics who may be expected to join the staff a year or more hence. On another occasion the trustees will have the opportunity of presenting these gentlemen to the profession of Baltimore. At the present time, I will only say that Dr. W. H. Welch, (the professor of pathology just referred to), is already here. To his previous acquisitions, which were of the highest order, he has added a year of observation and study in Europe, a year when more than ever before the nature and causes of disease have been considered by the ablest physicians under circumstances most favorable for the ascertainment of truth; and we anticipate that he will contribute to the organization of our school of medicine wise counsel, wide knowledge, and the heartiest desire to promote the welfare of his fellow-men by laborious investigations upon the nature of human ailments."

It is now thought that the medical school will open in the Autumn of 1887, and that instruction in pathology will be commenced before that time. The gentlemen below named constitute the nucleus of the medical faculty:

DANIEL C. GILMAN, LL. D., president; H. NEWELL MARTIN, Dr. Sc., M. D., professor of physiology; IRA REMSEN, M. D., Ph. D., professor of chemistry; WILLIAM H. WELCH, M. D., professor of pathology; JOHN S. BILLINGS, M. D., LL. D., lecturer on public hygiene; WILLIAM T. COUNCILMAN, M. D., associate in pathology.

MASSACHUSETTS.

HARVARD UNIVERSITY MEDICAL SCHOOL.

BOSTON, Mass. H. P. BOWDITCH, M. D., Dean, Boylston and Exeter streets.

ORGANIZED in 1782. The first class was graduated in 1783, and classes have been graduated in each subsequent year.

The officers of instruction are nine professors, nine assistant professors, one curator, four demonstrators, one assistant demonstrator, nine instructors, two lecturers, eight assistants to chairs and thirteen special clinical instructors. The faculty consists of the professors, assistant professors and other officers of instruction appointed for a longer term than one year.

COURSE OF INSTRUCTION: Instruction in this school is given by lectures, recitations, clinical teaching and practical exercises, uniformly distributed throughout the academic year. The year begins on the Thursday following the last Wednesday in September, and ends on the last Wednesday in June. The course of study recommended by the faculty covers four years, but the degree of Doctor of Medicine continues to be given upon the completion of three years' study. The degree of Doctor of Medicine *cum laude* is given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent. in all the examinations of this course; and a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course, and have passed a satisfactory examination in the studies of the same.

The division of studies in the three-years' course is as follows: First year—anatomy, physiology, general chemistry, materia medica and hygiene. Second year—practical and topographical anatomy, medical chemistry, pathological anatomy, clinical medicine, surgery and clinical surgery. Third year—therapeutics, obstetrics, theory and practice of medicine, clinical medicine, surgery, clinical surgery, ophthalmology, dermatology, syphilis, otology, laryngology, mental diseases, diseases of the nervous system, diseases of woman, diseases of children, and forensic medicine.

In the four-years' course, the first and second year's studies are the same as in the three-years' course; and in the third year of the four-years' course attention is confined to therapeutics, obstetrics, theory and practice of medicine, clinical medicine, surgery and clinical surgery. During the fourth year the subjects are ophthalmology, otology, dermatology, syphilis, laryngology, mental diseases, diseases of the nervous system, diseases of women, diseases of children, obstetrics, clinical and operative obstetrics, clinical medicine, clinical and operative surgery, forensic medicine, hygiene and bacteriology.

Opportunities for original research are offered to advanced students and graduates in the laboratories of anatomy, physiology, chemistry, histology and pathology. Facilities for clinical study are afforded in the Massachusetts General Hospital, the Boston City Hospital, the Massachusetts Charitable Eye and Ear Infirmary, the Marine Hospital at Chelsea, the Boston Dispensary and the Free Hospital for Women. There are twenty-five appointments annually for *internes* in the various hospitals, and as many more for assistants in the out-patient departments.

Requirements: "All candidates for admission, except those who have passed an examination for admission to Harvard College, must present a degree in letters, science or medicine from a recognized college or scientific school, or pass an examination in the following subjects. 1) every candidate will be required to write, legibly and correctly, an English composition of not less than two hundred words, and also write English prose from dictation; 2) the translation of easy Latin prose; 3) a competent knowledge of physics; 4) each candidate must pass an approved examination in any *one* of the following subjects: French, German, the elements of algebra or plane geometry, botany. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission, and furnish a satisfactory certificate of time spent in medical studies. No student shall advance with his class or be admitted to advanced standing, until he has passed the required examination in the studies of the previous year or a majority of them; nor shall he become a member of the third class until he has passed all the examinations of the first, in addition to a majority of those in the second year."

For graduation: "Every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three or four full years; must have spent at least one continuous year at this school; must have presented a satisfactory thesis, and have passed the required examination." Written examinations on all the main subjects of instruction are distributed, for regular students, through their entire course of study. "In addition to these written examinations, each student is required to present a written report of the analysis of a solution containing inorganic substances, and of a specimen of urine, to examine and report upon a clinical case in surgery, and to take charge of and report upon two cases in obstetrics; each student must also have satisfactorily dissected the three parts of the body."

Fees: Matriculation (payable once only), $5; lectures, full year, $200; one-half year, $120; special courses, $15 to $30 each.

Six scholarships of the value $200 or $300 are annually awarded to needy and deserving students.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	227	47	20.7
1878-79	253	70	27.6
1879-80	263	45	17.1
1880-81	251	60	23.9
1881-82	233	77	33+
1882-83	229	74	32 3
1883-84	243	59	24.2
1884-85	249	60	24+
1885-86	264	66	25

Percentage of graduates to matriculates, for past nine years, *twenty-five*.

BERKSHIRE MEDICAL COLLEGE (*Medical Department of Williams College*).

PITTSFIELD, MASS.

Organized in 1843. Lectures were delivered until 1867, when the college became extinct. During its existence 1138 students were graduated.

NEW ENGLAND BOTANICO-MEDICAL COLLEGE.

WORCESTER, Mass.

ORGANIZED in 1848. Reorganized in 1852 as the Worcester Medical College, Eclectic.

WORCESTER MEDICAL COLLEGE—*Eclectic.*

WORCESTER, Mass.

ORGANIZED in 1852.—See above. In 1857 it was decided to remove this school to Boston, where one course of lectures was given (1857-58). It was moved back to Worcester again the following winter, and became extinct in 1859.

NEW ENGLAND FEMALE MEDICAL COLLEGE—*Homeopathic.*

BOSTON, Mass.

ORGANIZED in 1848. Lectures were delivered and classes graduated until 1874, when it was merged into the Boston University School of Medicine, (*vide infra*).

BOSTON UNIVERSITY SCHOOL OF MEDICINE—*Homeopathic.*

BOSTON, Mass. I. TISDALE TALBOT, M. D., Dean, 66 Marlborough street.

ORGANIZED in 1873. The first class was graduated in 1874. Classes have been graduated each subsequent year. In 1874 the New England Female Medical College was united with this school.

The faculty embraces eleven professors, fourteen lecturers, three assistants, one demonstrator, one curator and one librarian.

COURSE OF INSTRUCTION: The school year is divided into three terms, as follows: The first term began October 14, 1886, and continues to December 24, 1886; the second term begins January 3, 1887, and continues to March 11, 1887; the third term begins March 21, 1887, and continues to June 1, 1887. A three-years' graded course is required, and a four-years' graded course is recommended. The degrees of Bachelor of Medicine and Bachelor of Surgery are granted to students of the four-years' course at the end of the third year. To each term and each year certain studies are assigned, in which the student is required to become proficient, as shown by examination, before entering upon more advanced studies.

The arrangement of studies for the three-years course is as follows: First year—anatomy, physiology, general chemistry, microscopy, histology, methodology and dissections. Second year—medical chemistry, minor surgery, surgical anatomy, surgery and surgical pathology, general pathology and pathological anatomy, special pathology and therapeutics, materia medica and pharmaceutics, obstetrics, gynecology, pedology, auscultation and percussion, laryngoscopy and diseases of the throat, and sanitary science. Third year—operative surgery, general pathology and pathological anatomy, special pathology and therapeutics, materia medica, practical and operative obstetrics, ophthalmology and otology, dermatology insanity and nervous diseases, medical jurisprudence, "ethics and esthetics," clinics and clinical reports in various departments, thesis.

In the four-years' course the studies of the first year are the same as in the three-years' course; special dissections, histology and microscopy are substituted for gynecology and pedology in the second year; operative surgery, practical and operative obstetrics, materia medica, special pathology and therapeutics, general pathology and pathological anatomy, pedology, gynecology and clinics occupy the third year; and the fourth year continues materia medica, clinics and clinical reports, and takes up ophthalmology, otology, dermatology, insanity, nervous diseases, medical jurisprudence, "ethics and esthetics," and dispensary practice.

REQUIREMENTS: For admission—"Candidates who have taken their first degree in arts, philosophy or science are admitted without examination. All others, before matriculation, are examined in the following branches: 1) In orthography, English composition and penmanship, by means of a page written at the time and place of examination; 2) arithmetic, geography and English grammar, if there be any doubt whether the candidate has sufficient attainment therein; 3) in elementary physics, by an examination in Stewart's Primer of Physics; 4) in Latin, by requiring a translation from Harkness's Latin Reader at sight. Candidates must be at least nineteen years old, or, if they intend to pursue a four-years' course, within six months of nineteen.

For graduation: "Candidates for the degree of Bachelor of Medicine or Bachelor of Surgery must have studied medicine three full years, the last of which was in this school, and must have passed examinations in all the branches of the first three years of the four-years' course in this school with a minimum average of eighty per cent. Candidates for the degree of Doctor of Medicine must be twenty-one years of age and of good moral character; must have studied medicine at least three years under competent instruction; must have attended a least three full and reputable courses of lectures, the last in this school;" and must sustain a satisfactory examination. The candidate must also furnish a thesis in which shall be cited the authorities for all statements of fact and opinion advanced, other than original, and these latter he must be prepared to publicly defend.

Fees: Matriculation, $5; laboratory, $5; practical anatomy, $10; dissection second and third parts, $10; operative obstetrics, full course, $10; lectures, $125; lectures, three years, $200; lectures, four years, $250; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matricuates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	169	48	25.4
1878-79	149	35	23.5
1879-80	127	35	27.6
1880-81	110	26	23.6
1881-82	110	29	26.3
1882-83	109	30	27.5
1883-84	97	34	35
1884-85	91	26	28.5
1885-86	*97	18	18.5

Percentage of graduates to matriculates for the years reported, *twenty-six.*

*Not including one M. D. who matriculated.

COLLEGE OF PHYSICIANS AND SURGEONS.

Boston, Mass. C. P. Thayer, M. D., Registrar, 350 Columbus avenue.

Organized in 1880. The first class was graduated in 1881

The faculty embraces nine professors, nine lecturers, four instructors, one demonstrator, and three clinical assistants.

Course of Instruction: The college term for the season 1886-87 began on the second Wednesday in October, 1886, and ends on the second Wednesday in May, 1887. Course of study is graded and extends over three years, but three courses of lectures are not absolutely demanded. Instruction consist of didactic lectures with demonstrations, clinical teaching, recitations and practical teaching on subjects involving manipulation.

Lectures embrace anatomy, physiology, chemistry materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, diseases of the nervous system, ophthalmology and otology, histology, dermatology, laryngology, diseases of children, orthopedic surgery, clinical medicine, clinical surgery, genito-urinary diseases.

Requirements: For admission, "Candidates for matriculation will be required to give evidence that they possess a good moral character, and a good English education, including a knowledge of elementary physics (heat, light and electricity), and must have sufficient knowledge of Latin as is necessary for a medical education. Persons who have studied medicine with a regular physician one or more years, or who have attended one full course of lectures at a recognized medical college, or students who have taken two full courses of lectures, may be admitted to the second or third year's course after examination in the branches of the first course." Women are admitted upon the same terms as men.

For graduation: 1) twenty-one years of age; 2) thesis; 3) three years' study; 4) two full courses of lectures; 5) dissected three parts; 6) fulfilllall requirements of laboratory work; 7) satisfactory examination.

Fees: Matriculation, $5; lectures, $85; demonstrator, $5; anatomical material for each part, $3; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1880-81	24	—	—
1881-82	49	11	22.4
1882-83	34	10	16.6
1883-84	44	6	13.6
1884-85	45	5	11.1
1885-86	30	4	13.3

Percentage of graduates to matriculates for past six years, *sixteen.*

NEW ENGLAND UNIVERSITY OF ARTS AND SCIENCES.

BOSTON, Mass.

Fraudulent.—Extinct. After the repeal of the charter of the New England University of the Arts and Sciences, of New Hampshire, diplomas were sold bearing the same name, but dated at Boston instead of at Manchester, N. H. This continued until the summer of 1881, when another expose was made by the ILLINOIS STATE BOARD OF HEALTH, which resulted in putting a stop to the further sale of these diplomas.

BELLEVUE MEDICAL COLLEGE OF MASSACHUSETTS.

BOSTON, Mass.

ORGANIZED in 1880. A fraudulent Institution, exposed by the ILLINOIS STATE BOARD OF HEALTH in 1882. In 1883 the charter was repealed.—See below.

MEDICAL DEPARTMENT OF THE AMERICAN UNIVERSITY OF BOSTON.

FIRST MEDICAL COLLEGE OF THE AMERICAN HEALTH SOCIETY.

EXCELSIOR MEDICAL COLLEGE.

THE exposure, in November, 1882, by the ILLINOIS STATE BOARD OF HEALTH, of the fraudulent Bellevue Medical College of Massachusetts, led to the correction of a flagrant abuse in connection with the issuing of medical diplomas in Massachusetts. The "Bellevue" was organized under the "Public Statutes relating to *Manufacturing* and other Corporations," and its first officers, on the trial which resulted from the exposure referred to, pleaded that they were legally incorporated, and were empowered by the laws of Massachusetts to issue diplomas and confer degrees without any restriction as to course of study or professional attainments. The United States Commissioner, before whom the trial was had, held the plea to be valid, and dismissed the case, with the following remarks:—

"The State has authorized this college to issue degrees, and it has been done according to legal right. * * * The law makes the faculty of the college the sole judges of eligibility of applicants for diplomas. There is no legal restriction, no legal requirements. *If the faculty choose to issue degrees to incompetent persons, the laws of Massachusetts authorize it.*"

As a result of this decision, the "American University of Boston," and the "First Medical College of the American Health Society," were incorporated under the same authoriy as the "Bellevue;" and the "Excelsior Medical College" and others were projected. The passage (June 30, 1883) of an act forbidding any corporation, organized under the public statutes above referred to, from conferring medical degrees or issuing diplomas, or certificates conferring or purporting to confer degrees, unless specially authorized by the Legislature so to do, deprived these concerns of the only object of their creation, namely the sale of fraudulent diplomas.

This action and the exposure which led thereto, resulted in breaking up the sale of diplomas in Boston.

MICHIGAN.

DEPARTMENT OF MEDICINE AND SURGERY OF THE UNIVERSITY OF MICHIGAN.

ANN ARBOR, Mich. A. B. PALMER, M. D., Dean of the Faculty.

ORGANIZED in 1850. The first class was graduated in 1851. Classes have been graduated each subsequent year.

The faculty embraces eleven professors, six assistants to the professors, two demonstrators, one instructor and curator, one house physician and surgeon, and one ward master in the University Hospital.

COURSE OF INSTRUCTION: The thirty-seventh annual session began October 1, 1886, and will end the last of June, 1887, continuing nine months, and being divided into two semesters. At the end of each semester written examinations are held. The course of study is graded and extends over three years. "The students are examined often upon the subjects of the lectures in progress, either by the professors or assistants."

Lectures embrace: First year, human and comparative anatomy, embryology, histology, physiology, chemistry, botany, physiological chemistry, study of bacteria, and materia medica and therapeutics. Second year, continuation in review of anatomy, histology, physiology, chemistry, and materia medica and therapeutics, with electro-therapeutics, pathology and practice of medicine, surgery and obstetrics. Third year, practice of medicine, sanitary science, surgery, obstetrics and the diseases of women and children, ophthalmology and otology, and laryngology, with clinical medicine and surgery and clinical gynecology. "The above list will be understood to include all special studies that appertain to, and form an essential part of, the general subjects enumerated."

Requirements: For admission, 1) eighteen years of age; 2) good moral character; 3) no previous study of medicine required for admission, but candidates will be examined as to their elementary education, and their fitness to pursue properly and profitably the technical study of medicine. The examination will be in writing. The candidate will be asked to give an account of his previous educational advantages, and will be examined on the following:

1st—"A good English education, comprising a competent knowledge of arithmetic, spelling, grammar, the art of composition, and a respectable acquaintance with English literature, such, for instance, as may be found in Shaw's Manual of English Literature, or other similar work."

2d—"A competent knowledge of political and physical geography, such as is contained in advanced school geographies and in Guoyt's Physical Geography."

3d—"An outline of the history of modern civilized nations, and especially of American history, such as may be found in manuals of history."

4th—"A competent knowledge of elementary zoölogy, including an acquaintance with the characteristics of the principal divisions of the animal kingdom. Packard's Zoölogy may be cited as an illustration of a work to be studied."

"In addition to the above requirements, *which alone* will be insisted upon, it is recommended as being desirable that students obtain such a knowledge of the Latin language as will enable them to read and write correctly current or ordinary prescriptions, and appreciate the technical language of the natural sciences and of medicine. It is also considered highly desirable that they have a general grammatical knowledge of the German and French languages. A similar knowledge of Greek will also be serviceable, and is highly recommended."

"Graduates or matriculates of a university or college, or of any academy or high school approved by this faculty; persons holding first-class or approved certificates from any reliable public school board as being properly qualified as teachers; and persons having certificates, based upon an examination by some recognized medical society, of being properly qualified to engage in the study of medicine, will not be required to pass the above examination."

For graduation, "To be admitted to the degree of Doctor of Medicine, a student must be twenty-one years of age and possess a good moral character; he must have completed the required course in practical anatomy and practical chemistry, and, unless the full course of study has been taken in this college, he must have been engaged in the study of medicine for the period of three years, including the time spent in attendance upon lectures. He must also have passed satisfactory examinations on all the studies included in the full course of instruction; or if admitted to advanced standing, he must have attended at least two full courses of medical lectures, the last of which was in this college, and must have passed the required examinations."

Fees: Matriculation, for residents of Michigan, $10; for non-residents, $25, to be paid but once; lectures, for residents of Michigan, $25; for non-residents, $35; graduation, for all alike, $10; demonstrator, $20; laboratory, $15.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	296	98	33+
1878-79	329	104	31.6
1879-80	350	91	26
1880-81	380	99	26
1881-82	380	90	23.7
1882-83	366	117	32
1883-84	328	85	25.9
1884-85	334	80	23.9
1885-86	325	83	25.5

Percentage of graduates to matriculates for past nine years, *twenty-seven.*

DETROIT MEDICAL COLLEGE.

Detroit, Mich.

Organized in 1868.—Extinct in 1885. See *Detroit College of Medicine.*

DETROIT HOMEOPATHIC MEDICAL COLLEGE.

DETROIT, Mich.

ORGANIZED in 1871.—Extinct since 1876.

MICHIGAN HOMEOPATHIC MEDICAL COLLEGE.

LANSING, Mich.

ORGANIZED in 1872.—Extinct, 1873.

HOMEOPATHIC MEDICAL COLLEGE OF THE UNIVERSITY OF MICHIGAN.

ANN ARBOR, Mich. HENRY L. OBETZ, M. D., Dean of the Faculty.

ORGANIZED in 1875. The first class was graduated in 1877. Classes have been graduated each subsequent year.

The faculty enbraces five professors, two assistants to chairs, and a resident physician and surgeon in hospital. Seven professors of the department of medicine and surgery (regular school) give instructions to homeopathic students.

COURSE OF INSTRUCTION: One annual session; that of 1886-87 began October 1, 1886, and will end the last of June, 1887. The course is graded, extending over three years, although two courses *may* suffice under certain conditions (see requirements for graduation). Daily quizzes by the assistants of the several chairs.

Lectures as follows: The first year of the course will include anatomy, histology, general chemistry, minor surgery, materia medica, principles of medicine, preparation of medicines and their action, descriptive and anatomical botany, clinics, physical diagnosis, with the necessary practical work in the chemical and physiological laboratories. This year's work in materia medica will be devoted to teaching the source, nature, origin and method of preparing remedies, with their physiological action, and a general survey of their pathogeneses. In the second year the above studies, including histology and minor surgery, will be reviewed, and the student will take up general and special therapeutics, in connection with materia medica, diseases of women and children, with clinical work, materia medica, qualitative chemistry and analysis of urine, pathological anatomy, principles and practice of medicine (including hygiene or preventive medicine), principles of surgery, and ophthalmology and otology. The materia medica work of this year will consist of special analyses and syntheses of drug-provings. In addition, the student will attend such didactic and clinical lectures on the practical branches as his progress shall render advisable. In the third year the student will enter upon the study of operative surgery, electro-therapeutics, spinal diseases and curvatures, and review obstetrics, materia medica, diseases of women and children, the principles and practice of medicine, and ophthalmology and otology, and receive practical instruction in diagnosis and treatment, both theoretical and clinical.

REQUIREMENTS: For admission—1) eighteen years of age and good moral character; 2) unless already a matriculate of the university, or a graduate of some respectable college, academy or high school, or possessing a first-grade teacher's certificate, every candidate will be examined as to his previous education and his fitness to enter upon and appreciate the technical study of medicine. The diploma or certificate of graduation from such institutions must be presented to the dean of the faculty in order to secure exemption from examination. The examination will be in writing, and will cover the ordinary branches of a common school English education.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) must have attended at least seventy-five per cent. of the regular lectures; 5) must have spent the required time in practical anatomy, chemical analysis, etc., in the various laboratories and hospitals; 6) must have attended the usual quizzes and drills by the assistants of the several chairs; 7) must also have passed satisfactory examinations in all the studies included in the curriculum; or, *if admitted to advanced standing*, he must have attended at least *two full courses* of medical lectures the last at this college, and pass the required examinations. Students who have completed full college courses for the first and second years in an accredited medical college will be permitted, upon examination, to enter the third year and complete the studies of that year in this department, and to present themselves for examination for the degree at the end of the year. Students who have attended one full course of lectures in any accredited medical college previous to 1880 will be admitted to advanced standing in the course required in this department, and may be graduated on the conditions in force prior to that date. Students who have studied medicine elsewhere at least one college year, and who possess superior qualifications, may be admitted, on examination, to advanced standing.

FEES: Matriculation, for residents of Michigan, $10; for non-residents, $25, (paid but once). Lectures, for residents of Michigan, $25; for non-residents, $35. Graduation, for all alike, $10. Course in chemical laboratory, $15; in hystological laboratory, $1; in electro-therapeutics, $1; in anatomy, $10.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	73	22	30+
1878-79	63	25	40—
1879-80	70	18	25.7
1880-81	88	23	26
1881-82	71	15	21+
1882-83	57	17	29
1883-84	55	20	36.3
1884-85	34	6	17 6
1885-86	49	17	34.7

Percentage of graduates to matriculates for past nine years, *twenty-nine.*

MICHIGAN COLLEGE OF MEDICINE.

DETROIT, Mich.

ORGANIZED in 1880.—Extinct in 1885.

See *Detroit College of Medicine.*

DETROIT COLLEGE OF MEDICINE.

DETROIT, Mich. C. J. LUNDY, M. D., Secretary, 52 Lafayette avenue.

ORGANIZED in 1885 by the consolidation of the Detroit Medical College and the Michigan College of Medicine, and incorporated by act of Legislature, June, 1885.

The faculty embraces twenty-eight professors and five assistants, two lecturers and two demonstrators.

COURSE OF INSTRUCTION: The regular session began September 22, 1886, and will close March 22, 1887. The spring session will begin March 30, and close June 15, 1887.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, state medicine and hygiene, otology, ophthalmology, dermatology, laryngology, clinical medicine and surgery, genito-urinary diseases, dental surgery, diseases of children and orthopedic surgery.

REQUIREMENTS: For admission—"All matriculates of the Detroit College of Medicine will be required to show, on examination, a satisfactory knowledge of the English branches. In place of this examination the college will accept the degree of A. B., B. S., Ph. D., certificates of having passed the entrance examination of any incorporated literary college, or any recognized medical college in which an examination is required for admission; also certificates of having graduated at any high school or academy."

For graduation: 1) evidence of good moral character; 2) twenty-one years of age; 3) three years' study of medicine; 4) two full courses of lectures; 5) dissected every part of the cadaver; 6) a satisfactory course of practical work in the chemical laboratory and in the physiological laboratory; 7) practical clinical work for one term in hospital and out-door clinics.

FEES: Matriculation, $5; lectures, $50; hospital, $10; graduation, $30.

STUDENTS: Number of matriculates and of graduates, and percentage of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1885-86	116*	46	39.6

*Not including one graduate who matriculated.

MINNESOTA.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF MINNESOTA, AND MEDICAL EXAMINING BOARD.

MINNEAPOLIS, Minn. PERRY H. MILLARD, M. D., Secretary of the Faculty, Stillwater, Minn.

ORGANIZED in 1883. The faculty embraces nine professors. This department is organized by the regents of the University, under their charter empowering them to grant degrees in medicine. The law regulating the practice of medicine in Minnesota makes this faculty also the State Medical Examining Board, with powers and duties similar to those conferred upon the STATE BOARD OF HEALTH OF ILLINOIS by the Illinois medical-practice act—that is to examine into the qualifications of those practicing medicine in the State not exempt from the provisions of the act by reason of length of practice, and to issue certificates entitling to such practice: 1) to those who establish the fact of graduation from a legally chartered medical institution in good standing; and 2) to those who, not being graduates of such institutions, pass a satisfactory examination by said board.

As the faculty of the medical department of the University, they examine and recommend to the regents candidates for the University degrees in medicine and surgery. No instruction is offered in this college. The faculty is an examining body only. Examinations include: 1) the extrance examination; 2) the scientific examination; 3) two or more professional examinations.

"I. The entrance examination embraces the English language, including writing spelling, grammar, analysis and composition, arithmetic, elementary algebra, plane geometry, geography, United States history, general history, Latin grammar and reading, or an equivalent knowledge of German, French or Scandinavian.

"II. The scientific examination embraces physical geography, natural philosophy, elementary botany, chemistry, drawing—free-hand or mechanical.

"III. The professional examination embrace anatomy, physiology, pathology, materia medica, therapeutics, medical chemistry, preventive medicine, practice of medicine surgery, obstetrics, diseases of women, diseases of children, diseases of the nervous system, medical jurisprudence."

DEGREES: "All candidates who pass the entrance, scientific and professional examinations, including the appropriate clinical and experimental tests incidental thereto, and give satisfactory evidence of having attended three courses of lectures of not less than twenty weeks' duration each, being twenty-one years of age or upwards, and of good moral character, are recommended by the faculty of the college to the board of regents to receive the degece of Bachelor of Medicine (M. B.), which degree duly conterred is the warrant of the University of Minnesota for the practice of medicine and surgery."

"Whenever the examinations in any case evince a high degree of proficiency in the literature, theory and practice of medicine the faculty of the college permit the candidate to present and defend a thesis. This being done to their satisfaction, they recommend the candidate to receive at once the full degree of Doctor of Medicine, (M. D.)"

"Any Bachelor of Medicine of this University who furnishes satisfactory evidence that he has been actively engaged in professional practice for three years after his graduation, and who presents and defends a thesis in the manner prescribed, is recommended to receive the degree of Doctor of Medicine (M. D.)

"Doctors of Medicine or other colleges of medicine recognized by the board of regents, upon the recommendation of the faculty of this college, are recommended to receive the degree of Doctor of Medicine of this University, upon successfully defending a thesis in the manner prescribed."

"All candidates for the first degree must furnish satisfactory evidence that they have severally pursued the study of medicine for four years in the office of and under the personal direction of a physician in active practice, who is a graduate of some college or school of medicine recognized by the board of regents, upon the recommendation of the faculty of this college. *Provided, however*, that—

"(1.) One course of lectures, with other work incidental thereto, in a college of medicine recognized as above, shall be reckoned as equivalent to eight months of such study."

"(2.) One term of six months in a school of medical instruction, organized and conducted in conformity with the by-laws, shall be equivalent to one year of such study under a preceptor."

"(3.) Three courses of lectures, with work incidental thereto, in colleges of medicine recognized as above, shall be equivalent to three years of study under a preceptor; one year at least must, in all cases, have been passed in a preceptor's office.

"(4.) Graduates of colleges and universities receive a credit of one year on professional study in consideration of superior literary and scientific attainments."

The faculty of this college have authority to provide examinations for candidates for licenses in sanitary science, dental surgery and other specialties. Only Bachelors or Doctors of Medicine can become such candidates. All theses must be upon subjects approved by the faculty, must be founded on original work, and certified as the unaided productions of the candidates.

Applicants for degree of M. B. and number of graduates—

Session.	Applicants.	Graduates.	Percent.
1884	17	2	28.5
1885	15	2	13.3
1886	11	3	27.2

Percentage of graduates to applicants, *twenty-one*.

WINONA MEDICAL SCHOOL.

WINONA, Minn.

ORGANIZED in 1872.—Extinct. No diplomas were issued. It was a school of instruction only.

MINNESOTA HOSPITAL COLLEGE.

MINNEAPOLIS, Minn. F. A. DUNSMORE, M. D., Dean of the College.

ORGANIZED in 1881 as the successor of the St. Paul Medical College, founded in 1878. Reorganized in 1885 under its present title.

The faculty embraces eighteen professors, four lecturers and one demonstrator.

Course of Instruction: The collegiate year embraces a spring reading course of three months, which commences the first Monday in April, and a regular session which begins the third Monday in September and continues six months. A graded course is recommended, but not required. Instruction is imparted by lectures, recitations, practical work in laboratories and demonstrations, and by hospital and dispensary clinics.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology, otology, laryngology, clinical medicine and surgery, dermatology, diseases of children, toxicology, nervous diseases, orthopedic surgery, genito-urinary diseases, medical and surgical dentistry and bacteriology.

Requirements: For admission—"Before matriculation the student must pass an examination in the common English branches, including reading, writing, spelling, grammar, geography, arithmetic, and elements of physics. Candidates having a degree in arts or sciences, or presenting a certificate from a high school or other institution in good standing, or a teacher's certificate, will be admitted without examination."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) dissection of each part of the cadaver; 4) thesis; 5) three years' study; 6) two full courses of lectures.

Fees: Matriculation, $5; lectures, $50; spring course, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	25	5	20
1882-83	58	4	7
1883-84	50	7	14
1884-85	51	19	37.2
1885-86	53	9	16.9

Percentage of graduates to matriculates for past five years, *eighteen*.

MINNEAPOLIS COLLEGE OF PHYSICIANS AND SURGEONS.

Minneapolis, Minn. J. T. Moore, M. D., Dean of the Faculty.

Organized in 1883.

The faculty embraces thirteen professors, one adjunct professor and a demonstrator of anatomy.

Course of Instruction: The winter course began September 20, 1886, and will continue six months.

Lectures embrace anatomy, physiology, materia medica and therapeutics, chemistry and toxicology, theory and practice of medicine, surgery, obstetrics, gynecology, diseases of children, ophthalmology, otology, nervous diseases, medical jurisprudence, preventive medicine and genito-urinary and orthopedic surgery.

Regulations and Requirements: 1) "Preliminary examination. This will be required of all students before matriculation. * * * The examination shall consist of: (*a*) English language including grammar and composition (this shall include spelling, writing, grammatical construction of sentences, and derivation of words in common use); (*b*) United States History, a history of applicant's native country; (*c*) modern geography; (*d*) elements of mathematics; (*e*) Latin, medical (optional, to be passed at any time before the final examination)." "Satisfactory evidence of having passed a similar examination before any authorized body will be accepted in lieu of the above." 2) "Students, to obtain certificates of attendance, must attend seventy-five percent. of all the lectures on every branch taught; 3) the medical course shall consist of three winter sessions of six months each * * * the last course must be spent in this college; a properly certified year's study in a regularly qualified practitioner's office, upon passing a satisfactory examination before the faculty, will be taken in lieu of one year's study; 4) a certificate of having attended two winters upon practical anatomy, and of at least having gone over one lateral half of the human body; 5) a certificate of two winters' attendance upon clinical instruction; 6) evidence will be required of having attended two obstetrical cases; 7) upon completion of the above course the candidates may come before the Examining Board for the degree of Doctor of Medicine; or, if preferred, they will be sent before the examining faculty of the University of Minnesota for the degree of that body."

Fees: Matriculation, $5; demonstrator's ticket, $5; lecturer's fees (full course), $40; final examination, $10. Students having paid fees in full for two years are admitted to third year upon payment of matriculation fee only.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	*6	—	——
1884-85	13	2	15.3
1885-86	16	3	18.7

Percentage of graduates to matriculates for the past two years, *seventeen*.

*One student graduated at State University, as the college had not at that date completed arrangements for conferring degrees.

ST. PAUL MEDICAL COLLEGE.

St. Paul, Minn. LeGrand N. Denslow, M. D., Secretary of the Faculty.

Organized in 1885, the present college is a reorganization of the school of the same name founded in 1878, but which during the past five years has been associated with the Minnesota Hospital College.

The faculty embraces nineteen professors, five adjunct professors and one demonstrator.

Course of Instruction: The winter session of 1886-87 began October 4, 1886, and ends March 5, 1887. The spring session will begin the middle of March and end about the last of May, 1887.

Lectures embrace diseases of women, principles and practice of surgery, practice of medicine, clinical surgery of genito-urinary diseases, diseases of the mind and nervous system, ophthalmology and otology, diseases of the skin, and syphilis, clinical medicine and hygiene, obstetrics, anatomy, physiology, laryngology, chemistry and toxicology, pathological and histological anatomy, orthopedic surgery, diseases of children and medical jurisprudence.

Requirements: For admission—"An entrance examination will be required of all applicants for admission who are not able to present a diploma from a high-school or college, or a teacher's certificate. This examination will include mathematics, English composition and elementary physics or natural philosophy."

For graduation: 1) three full courses of didactic lectures on anatomy, physiology, chemistry, materia medica and therapeutics, obstetrics, surgery, theory and practice of medicine; 2) complete dissection of each part of the body; 3) must have studied medicine three years, be twenty-one years of age, and present certificate of good moral character; 4) thesis; 5) the requirement of three courses of lectures will not apply to students who have already taken one full course of lectures at the Minnesota College Hospital prior to March, 1885.

Fees: Matriculation, $5; lectures, $50; practical anatomy, $10; graduation, $25; spring course, $25.

Students: Number of matriculates and graduates and percentage of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1885-86	26	13	50.

Names of matriculates not given in announcement.

MISSISSIPPI.

LICENSE TO PRACTICE MEDICINE.

In this State two Medical Censors in each Congressional district are chosen annually by the State Medical Association, who meet twice each year to examine applicants for license. All have to submit to examination regardless of diplomas. Section 17 of the "Act to Regulate the Practice of Medicine" permitted all physicians in the State to procure license, within four months after its passage, without examination. Under this section 1,785 physicians obtained license. About twenty old physicians who failed to apply until it was too late, have been permitted to practice by special act of the Legislature. About one hundred have obtained license by examination, since the passage of the law.

MISSOURI.

STATE BOARD OF HEALTH OF MISSOURI.

St. Louis. Geo. Homan, M. D., Secretary of the Board.

Reorganized July 2, 1885, having been then in existence two years. The provisions of the acts creating the Board and defining its duties and powers are, in all material points, the same as those in Illinois. Its standard of recognition of Medical Colleges as in good standing, is also the same as that established by the Illinois Board.

Since its reorganization the Board has pursued the policy of issuing licenses to practice, or certificates, only to graduates—their compliance in every particular with existing requirements being insisted upon. The granting of certificates to non-graduate applicants upon examinations held by the Board to test their fitness to practice, is viewed with disfavor; and by a resolution passed at the meeting held in October, 1885, it was declared as the sense of the Board that this feature of the law should be repealed by the Legislature—it being deemed provisional in nature and no longer beneficially operative; the course advised being that those seeking the legal right to practice in the State should prepare themselves in, and be duly vouched for as to fitness by accredited medical schools before coming before the Board for official recognition and license.

The possession by the Board of delegated police power, and its judicious exercise in the regulation of medical practice, the licensing of practitioners, the refusal to issue certificates to applicants guilty of unprofessional or dishonorable conduct, and the revocation of licenses for such cause, has been fully sustained and confirmed by the Supreme Court of the State in a decision rendered in December, 1884.

In the exercise of its discretion in the determination of what shall be held to constitute unprofessional or dishonorable conduct in physicians, the Board is declared to be beyond the reach of mandatory authority; and the same view is affirmed in regard to its power to deal with medical colleges, provided no element of discrimination in favor of or against particular systems or schools, legalized by the State, enters into its decisions.

At the July, 1886, meeting the Board decided that schools showing a percentage of graduates to matriculates of 45 or over would be required to offer a satisfactory explanation of such excess before their diplomas would be admitted to registration.

MISSOURI MEDICAL COLLEGE.

Medical Department of the University of the State of Missouri, Section No. 2.

St. Louis, Mo. T. F. Prewitt, M. D., Dean, corner 22d and Olive streets.

Organized in 1840 as the Medical Department of Kemper College. In 1845 it became the Medical Department of the University of the State of Missouri. In 1855 it became the Missouri Medical College.

The first class was graduated in 1841. It was suspended during the war, and no students were graduated in 1862, '63, '64 or '65. It is sometimes called, after its founder, The McDowall Medical College.

Under a contract of co-operation entered into June 2, 1886, between the University of the State of Missouri at Columbia and the Missouri Medical College at St. Louis, the College resumes its connection with the University. The following extracts from the contract set forth the material features of the present arrangement:

1st—The present Medical School of said University shall be designated and known in this arrangement of association as Section No. 1, of the Medical Department of the University of the State of Missouri; and the said Missouri Medical College at St. Louis shall be designated and known as Section No. 2, of the Medical Department of the University of the State of Missouri.

2d—Students who shall complete the preparatory studies and also the studies prescribed in the Junior year of Section No. 1, shall receive a certificate to that effect, properly signed by the President, and also the tickets of the several professors of said Section No. 1.

3d—Any student, on the presentation of such certificate and tickets to the said Missouri Medical College, designated as Section No. 2, shall be entitled to all the privileges of said Section No. 2, but shall be required to pursue only the subjects of study not completed in Section No. 1, and shall be required to pay only for the matriculation ticket, and for the tickets to the subjects of study and instruction required of him in Section No. 2.

4th—Each student, from Section No. 1 who completes the course of study and instruction in Section No. 2, as provided in these articles of agreement, upon passing satisfactory examination shall be entitled to a diploma jointly issued by the authorities controlling both sections, and all diplomas of Section No. 2, as well as the joint diplomas, shall be signed and delivered by the President of said University.

5th—In the event of prizes, medals or distinctions being awarded, the standing of students from Section No. 1 shall be credited to them in all such contests.

6th—The authorities controlling Section No. 2 are to exercise an active influence in all circulars and catalogues, to induce students to first complete their Junior course in Section No. 1 at Columbia.

[It should be observed that students are not compelled to attend the school at Columbia, but may matriculate as heretofore at the college—there being no change in the requirements for graduation upon students so entering. The faculty, however, "strongly recommend that as many as can do so take the course of Section No. 1."]

The faculty embraces fourteen professors, two adjunct professors, three demonstrators and five clinical assistants.

Course of Instruction: The forty-sixth regular graduating course began October 4, 1886, and will continue five months; the spring course will begin on the 7th of March, 1887, and continue through May. This course will consist of clinics and didactic lectures. A three-years' graded course is recommended, but not required. Clinics are given at hospitals and dispensary.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology, otology, histology, biology, clinical medicine, clinical surgery, diseases of the nervous system, diseases of children, pharmacy and microscopy.

Requirements: For admission—"A preliminary examination will take place in accordance with the rules of the State Board, as follows: 1) credible certificate of good moral standing; 2) diplomas of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate; or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition and elementary physics or natural philosophy."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures, and attendance upon clinics and dissections so long as a student of this college; 4) a satisfactory examination.

Fees: Matriculation, $5; lectures, $60; graduation, $30; demonstrator, $10.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	240	97	40.4
1878-79	225	90	40
1879-80	300	120	40
1880-81	265	123	46.4
1881-82	235	125	53
1882-83	210	86	41
1883-84	252	103	40.8
1884-85	208	88	42.3
1885-86	221	86	38.9

Percentage of graduates to matriculates during the past nine years, *forty-two*.

ST. LOUIS MEDICAL COLLEGE.

St. Louis, Mo. J. S. B. Alleyne, M. D., Dean, 3132 Washington avenue.

Organized in 1841, as the Medical Department of the St. Louis University. In 1855 it was chartered as an independent institution under its present name. The first class was graduated in 1843. Classes have been graduated each subsequent year.

The faculty embraces fourteen professors, two adjunct professors, seven lecturers, and two demonstrators.

Course of Instruction: The college year of 1886-87 embraces a spring and winter session. The former began March 8, 1886, and continued eleven weeks. The winter graduating course began September 20, 1886, and continues until March 1, 1887. The course of studies extends over a period of three years, and is graded.

Lectures embrace: First term, chemistry, chemical laboratory practice, anatomy, surgical anatomy, dissections, histology, histological demonstrations, physiology, materia medica; Second term, chemistry, anatomy, surgical anatomy, dissections, physiology, materia medica and therapeutics, pathological anatomy, principles and practice of medicine, clinical medicine, medical clinics, clinics for diseases of children, surgical clinics; Third term, surgical anatomy, dissections, principles and practice of medicine, principles and practice of surgery, ophthalmology, obstetrics, diseases of women, diseases of children, hygiene and forensic medicine, medical clinics, children's clinics, surgical clinics, ophthalmic clinics, gynecological clinics, clinics for diseases of the genito-urinary organs, and diseases of the nervous system.

Requirements: For admission, "All students entering the college will be required to pass a satisfactory examination in the branches of a good English education, including English grammar, orthography and composition, mathematics, and elementary physics. Students who present a diploma or certificate of graduation from a literary or scientific college or a high school, or first-grade teacher's certificate, shall be exempt from this preliminary examination." Students who have attended other accredited schools may obtain advanced standing by passing the examinations of the proper year.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) *must have attended three regular courses of lectures;* 5) examination in chemistry, anatomy, physiology, materia medica, therapeutics, principles and practice of medicine, clinical medicine, surgery, obstetrics, hygiene and forensic medicine, pathological anatomy, surgical anatomy, gynecology, ophthalmology and diseases of the genito-urinary organs.

Fees: Matriculation, (paid once only), $5; term fee, including demonstrator, laboratory and hospital tickets, $90; spring session, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	180	47	26
1878-79	170	54	31.7
1879-80	163	41	25
1880-81	153	43	28
1881-82	167	29	17.3
1882-83	134	40	30
1883-84	112	33	29.4
1884-85	91	20	22
1885-86	96*	18	18.7

Percentage of graduates to matriculates for past nine years, *twenty-five*.

*Not including eleven graduates who matriculated.

MEDICAL DEPARTMENT, UNIVERSITY OF THE STATE OF MISSOURI.—Section No. 1.

Columbia, Mo. Woodson Moss, M. D., Secretary.

Founded in 1845. The first class was graduated in 1846. From 1845 to 1855 the medical department was situated at St. Louis. See Missouri Medical College. No degrees were conferred during the war, 1861–65.

The faculty embraces six professors.

Course of Instruction: Only a junior medical course is now given, consisting of two semesters—September 17, 1886, to January 18, 1887, and January 18 to May 30, 1887. During the first semester the principles of obstetrics, anatomy, physics, physiology, medical botany, materia medica, the use of the microscope and experimental laboratory work are taught. During the second semester the studies embrace physiology, chemistry, general and surgical pathology, materia medica, history and philosophy of medicine, and laboratory work. Dissecting is pursued through both terms.

"In addition to the above course, all students, before receiving the certificate which secures to its holders certain important advantages in Section No. 2 (see Missouri Medical College), as matriculates from Section No. 1, must pass a satisfactory examination upon the following subjects, to-wit:

"The first semester's work in English, zoölogy, Latin and arithmetic, with the metrical system; and the second semester's work in rhetoric, botany and book-keeping, U. S. history, literature and elements of chemistry. These subjects are arranged in a continuous year's course for such as may have an imperfect common school education. Those who fail to make good this elementary academic work will only have as hitherto their tickets to show for work done in the junior medical course."

Fees: For the junior medical course, including demonstrator's ticket, $50; for the year of academic work, $20.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates,	Graduates.	Percent.
1877-78	22	8	36.3
1878-79	36	6	16.6
1879-80	43	9	20.9
1880-81	40	5	12.5
1881-82	35	7	20
1882-83	25	9	36
1883-84	16	4	25
1884-85	20	4	20
1885-86	16	3	18.7

Percentage of graduates to matriculates for the past nine years, *twenty-two*.

HUMBOLDT MEDICAL COLLEGE.

St. Louis, Mo.

Incorporated February 28, 1855, as the St. Louis College of Medicine and Natural Sciences. It was an attempt at reform in medical education, and in addition to the ordinary studies, especial attention was paid to mineralogy, geology and general botany. The classes were divided into junior and senior, and the student was required to attend four courses of lectures. In 1859 it became the "Humboldt Institute, a German college for the promotion of Natural Sciences and Medicine." Under this name it was kept up until 1866 when the name of Humboldt Medical College was assumed. In 1867 the "college terms were extended to two regular terms of seven months each, and two summer terms of two months each, making the whole term of attendance upon lectures eighteen months." There were thirteen professors and one lecturer in the faculty, and eleven matriculates for the session of 866-67; four graduates in 1867 and twenty eight matriculates, and four graduates in 1868.

Before the lectures commenced for the session of 1869-70 a split occurred in the faculty, a portion of the body organizing the College of Physicians and Surgeons. No lectures were delivered after the session of 1869-70.

HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI.

St. Louis, Mo. J. T. Kent, M. D., Registrar, 2319 Washington avenue.

Organized originally in 1859; reorganized in 1882. Between the years 1869 and 1881 the following homeopathic colleges were organized in St. Louis, viz: The St. Louis College of Homeopathic Physicians and Surgeons, organized in 1869; held two sessions and suspended after session of 1870-71. The Homeopathic Medical College of St. Louis, organized 1873. The Hering Medical College, organized in 1880. In 1880 a portion of the faculty of the Homeopathic Medical College of Missouri seceded and revived The St. Louis College of Homeopathic Physicians and Surgeons, which again held two sessions; but after the session of 1881-82 this college and the Hering were consolidated with the Homeopathic Medical College of Missouri.

The faculty of this college embraces ten professors and two instructors.

Course of Instruction: The annual course will begin with preliminary lectures September 15, 1886, the regular course commencing two weeks later and continuing six months. Clinics at hospital and at dispensary. Three courses of lectures recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology and otology, diseases of the nervous system, pedology, clinical medicine, clinical surgery.

Requirements: For admission—"The applicant must present a certificate of moral character; pass an examination in all the branches of an English education, and furnish evidence of scientific and literary qualifications."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; 5) satisfactory examination on all the branches taught.

Fees: Matriculation, $5; lectures, $50; graduation, $25; demonstrator, $10. For graded course, three years, in advance, $100.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-83	41	11	27
1883-84	39	18	48.7
1884-85	32	9	28.1
1885-86	*38	17	44.7

Percentage of graduates to matriculates, *thirty-seven.*

*Not including three graduates who matriculated, upon two of whom the ad eundem degree was conferred.

KANSAS CITY MEDICAL COLLEGE.

Kansas City, Mo. E. W. Schauffler, M. D., President of the Faculty.

Organized in 1869 as the College of Physicians and Surgeons of Kansas City. The first class was graduated in 1870; classes have been graduated each subsequent year. The school assumed its present name in 1880.

The faculty embraces twelve professors, one adjunct professor, two lecturers, two demonstrators and one instructor.

Course of Instruction: One graduating session annually; that for 1886-87 began September 15, 1886, and will close March 14, 1887. A graded three years' course is recommended, but not required. Hospital and dispensary clinics are given.

Lectures embrace anatomy, physiology, chemistry, materia medica, and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, ophthamology and otology, histology, urinary chemistry, clinical medicine, clinical surgery, diseases of children and hygiene.

Requirements: For admission—1) credible certificate of good moral character; 2) diploma of graduation from a good literary and scientific college, or high school, or a first-grade teacher's certificate. Lacking such evidence of preliminary education, a thorough examination in the branches of a good English education, including mathematics, English composition and elementary physics or natural philosophy.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of instruction; 5) personal examination on the seven principal branches of medicine.

Fees: Matriculation (paid but once), $5; lectures, $50, demonstrator, $10; graduation, $20.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877–78	31	9	29
1878–79	31	9	29
1879–80	44	17	38.6
1880–81	42	12	28.5
1881–82	32	16	50
1882–83	36	12	33.3
1883–84	38	15	39.4
1884–85	29	9	31
1885–86	29	10	34.4

Percentage of graduates to matriculates for past nine years, *thirty-five*.

ST. LOUIS COLLEGE OF HOMEOPATHIC PHYSICIANS AND SURGEONS.

St. Louis, Mo.

Organized in 1869. Suspended after the session of 1870–71.—See Homeopathic Medical College of Missouri.

ST. LOUIS COLLEGE OF PHYSICIANS AND SURGEONS.

St. Louis, Mo. Louis Bauer, M. D., Dean, 515 Pine street.

Organized in 1869, and in active operation until 1873, when it became extinct. Reorganized in 1879.

The faculty embraces fourteen professors, one adjunct professor and one assistant demonstrator,

Course of Instruction: The regular session began October 11, 1886, and will close the second Saturday in March, 1887. A preliminary session began September 6 and closed October 9, 1886. A spring session will begin on the second Monday following the close of the regular session, and continue eight weeks. Both the preliminary and spring sessions are optional. A three-years' graded course is recommended but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, military surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology and otology, dermatology and syphilis, laryngology, clinical medicine, clinical surgery, toxicology, and diseases of the nervous system.

Requirements: For admission—1) a diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate; or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition and elementary physics or natural philosophy; 2) not less than eighteen years of age; 3) credible evidence of good moral character.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) at least three years' study of medicine; 4) attendance on two courses of lectures.

Fees: Matriculation (paid once only), $5; lecture tickets (including demonstrator's fees), $50; examination fee (not returnable), $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879-80	19	5	26.3
1880-81	41	9	22—
1881-82	49	12	24.5
1882-83	69	31	45
1883-84	57	27	47.3
1884-85	33	12	36.3
1885-86	35*	17	48.5

Percentage of graduates to matriculates for past seven years, *thirty-seven*.

*Not including two graduates who matriculated, upon one of whom the ad eundem degree was conferred.

MEDICAL COLLEGE OF KANSAS CITY.

Kansas City, Mo.

Organized in 1869 as "The College of Physicians and Surgeons," one session was held. In 1870 the "Medical College of Kansas City" was organized. Three sessions were held.—Extinct in 1873.

HOMEOPATHIC MEDICAL COLLEGE OF ST. LOUIS.

St. Louis, Mo.

Organized in 1873.—Extinct. Fraudulent.

ST. LOUIS HAHNEMANN MEDICAL COLLEGE.

St. Louis, Mo.

Organized in 1873. One course of lectures delivered. Matriculates 10; graduates 4.—Extinct in 1874.

AMERICAN MEDICAL COLLEGE—(*Eclectic.*)

St. Louis, Mo. Geo. C. Pitzer, Dean, 1110 Chambers street.

Organized in 1873. The first class was graduated in 1874. Classes were graduated twice annually from that date up to 1883, but only one annual graduating session is now held.

The faculty embraces eight professors, three lecturers and one demonstrator.

Course of Instruction: The regular graduating session of 1886-87 commenced September 8, 1886, and will continue until June, 1887; any twenty weeks of said period are considered as attendance upon one full session. Clinics are given at hospital and college.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, pharmacy, ophthalmology, otology, diseases of children, clinical medicine, clinical surgery.

Requirements: For admission, 1) credible certificate of good moral standing; 2) diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate. Lacking such evidence of preliminary education, a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy.

For graduation, 1) good moral character; 2) twenty-one years of age; 3) two courses of lectures; 4) three years' study; 5) "must show a record of faithful attendance both at the college and hospital lectures;" 6) satisfactory final examination.

Fees: Tickets for the session of twenty weeks, including matriculation and demonstrator's ticket, $75; for one college year of nine months, $100; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	120	78	65
1878-79	66	36	54.5
1879-80	95	42	44.2
1880-81	66	22	33.3
1881-82	118	40	33.9
1882-83	114	38	33.3
1883-84	65	15	23+
1884-85	24	14	58.3
1885-86	26	6	23+

Percentage of graduates to matriculates for past nine years, *forty-two.*

ST. LOUIS ECLECTIC MEDICAL COLLEGE.

St. Louis, Mo.

Organized in 1874.—Extinct in 1883. Closed by legal process.

ST. JOSEPH HOSPITAL MEDICAL COLLEGE.

ST. JOSEPH, MO.

ORGANIZED in 1876. Five classes, containing forty-five students, were graduated. In 1882 this college was merged into the St. Joseph Medical College (*vide infra*).

COLLEGE OF PHYSICIANS AND SURGEONS OF ST. JOSEPH.

ST. JOSEPH, MO.

ORGANIZED in 1878. Three classes, containing fifty students, were graduated. In 1882 this college was merged into the St. Joseph Medical College (*vide infra*).

JOPLIN COLLEGE OF PHYSICIANS AND SURGEONS.

JOPLIN, MO.

ORGANIZED in 1880. The first class was graduated in 1881. The school became extinct in 1884. None of its diplomas recognized.

HERING MEDICAL COLLEGE—(*Homeopathic.*)

ST. LOUIS, MO.

ORGANIZED 1880. See *Homeopathic College of Missouri.*

NORTHWESTERN MEDICAL COLLEGE, ST. JOSEPH, MO.

ST. JOSEPH, MO. J. P. CHESNEY, M. D., Secretary, Ninth and Francis streets.

ORGANIZED in 1880. The first class was graduated in 1881.

The faculty embraces eight professors, two lecturers and one demonstrator.

COURSE OF INSTRUCTION: The regular graduating term begins the first Monday in October and continues five months. Attendance on three courses of lectures is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics theory and practice of medicine, pathology, obstetrics and gynecology, hygiene, medical jurisprudence, diseases of children, deseases of the nervous system, clinical medicine, clinical surgery, electro-therapeutics, diseases of women, dermatology and forensic medicine.

REQUIREMENTS: For admission—1) credible certificate of good moral character; 2) diploma of graduation from a good literary and scientific college or high school; lacking this, a preliminary examination by the president of the faculty.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses; 4) satisfactory examination; 5) thesis.

FEES: For the entire course, $45; graduation, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1880-81	40	23	57.5
1881-82	40	26	65
1882-83	31	18	58
1883-84	39	10	25.8
1884-85	28	14	50
1885-86	28	11	39.2

Percentage of graduates to matriculates for the past six years, *forty-nine*.

JOPLIN MEDICAL COLLEGE.

JOPLIN, MO.

ORGANIZED in 1881.—Extinct in 1882.

AMERICAN ANTHROPOLOGICAL UNIVERSITY OF ST. LOUIS.

A diploma from this University was recently presented for record in Indiana. Diplomas of this institution were sold in Scotland several years ago, and the attention of the Board was called to the same by Hon. John Eaton, U. S. Commissioner of Education. This is the first instance that has come to the knowledge of the Board of any diplomas of this school being held in this country, and presented as a qualification to practice medicine. Through prosecutions during the past year in Germany, it has been ascertained that parties held diplomas from this institution in that country.

UNIVERSITY OF KANSAS CITY, MEDICAL DEPARTMENT.

Kansas City, Mo. J. E. Logan, M. D., Secretary, N. W. cor. Twelfth and Main streets.

Organized in 1881. The first class was graduated in 1882.

The faculty embraces seventeen professors, one adjunct professor and three lecturers.

Course of Instruction: The sixth annual session commenced September 13, 1886, and continues twenty-six weeks. The spring course opens about the middle of March, and continues ten weeks. Instruction is given by lectures, clinics, practical courses in the dissecting room, laboratories, and by repeated examinations. A three-years course is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, surgery, obstetrics and gynecology, medical jurisprudence, ophthalmology and otology, nervous and mental diseases, orthopedic surgery, diseases of the throat and chest, diseases of children, pharmacy, genito-urinary diseases, clinical medicine and clinical surgery.

Requirements: For admission—"Every applicant must be of good moral character, and possess the evidence of a good English education. He should also possess a sufficient knowledge of Latin to read and write current prescriptions. Every candidate for matriculation, unless a graduate of some college, high school or academy, or holding a certificate of some literary institution, will be examined to ascertain his fitness for entering upon and appreciating the study of medicine."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; 5) clinical instruction during one term; 6) dissection of each region of the body; 7) full and satisfactory examination in each branch.

Fees: Matriculation, $5; lectures, $50; demonstrator, $10; practical chemistry (optional, chemicals at cost), $10; graduation, $20.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	25	11	44
1882-83	28	8	38.6
1883-84	45	14	31.1
1884-85	35	16	45.7
1885-86	30	17	56.6

Percentage of graduates to matriculates for the past five years, *forty*.

ST. JOSEPH MEDICAL COLLEGE.

St. Joseph, Mo. Jacob Geiger, M. D., Dean, corner Sixth and Francis streets.

Organized in 1882, by the union of the St. Joseph Hospital Medical College and the College of Physicians and Surgeons of St. Joseph. The first class graduated in 1883.

The faculty embraces twelve professors, two lecturers, and one demonstrator.

Course of Instruction: The tenth regular course of lectures began October 4, 1886, and will continue until March, 1887. Clinics are given in hospital and dispensary. A three-years' graded course is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, mental and nervous diseases, ophthalmology and otology, diseases of children genito-urinary diseases, diseases of throat and nose, clinical medicine and clinical surgery, pathology and microscopy.

Requirements: For admission—"Each candidate for admission must present: 1) credible certificate of good moral character; 2) diploma of graduation from a good literary and scientific college or high school, or first-grade teacher's certificate; or, lacking this, a thorough examination in the branches of a good English education."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; 5) dissection "continuously" during two courses of lectures; 6) hospital clinics; 7) satisfactory examination on all branches taught in this college.

FEES: Matriculation, $5; lectures, $35; demonstrator, $10; graduation, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-83	24	8	33.3
1883-84	35	6	17.1
1884-85	28	9	32.1
1885-86	26	11	42.3

Percentage of graduates to matriculates for past four years, *thirty*.

REMARKS: The late Hon. Samuel Ensworth recently bequeathed $100,000 for the erection and maintenance of the "St. Joseph Medical College and Hospital."

KANSAS CITY HOSPITAL COLLEGE OF MEDICINE.

KANSAS CITY, MO. E. G. GRANVILLE, M. D., Secretary of the Faculty.

ORGANIZED in 1882. The first class was graduated in 1883. The faculty embraces twelve professors.

COURSE OF INSTRUCTION: The regular graduating session of 1886-87 began October 15, 1886, and will close March 15, 1887. A spring session of four weeks will follow immediately upon the close of the regular session.

Lectures embrace "allopathic theory and practice, and clinical medicine;" "homeopathic therapeutics, theory and practice of clinical medicine;" "eclectic materia medica and practice, and clinical medicine;" principles and practice of surgery, operative surgery and surgical pathology, physiology, chemistry, anatomy, obstetrics, diseases of women and children, gynecology, mental and nervous diseases, dermatology, diseases of genito-urinary organs, demonstrations in surgery, laryngology, state medicine and public hygiene, medical jurisprudence, ophthalmology and otology, medical and surgical electricity.

REQUIREMENTS: For admission—"Each candidate must be not less than eighteen years of age, male or female, and must present to the faculty satisfactory evidence of good moral character. Diploma of graduation from a good literary or scientific college or high school, or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition and elementary physics or natural philosophy."

For graduation: 1) good moral character; 2) twenty-one years of age; 3) three years' study; 4) two full courses of lectures; 5) satisfactory examination in all the branches taught in the college; 6) thesis.

FEES: Matriculation (paid once), $5; lectures, $30; demonstrator, $10; graduation, $20; hospital and dispensary, $5.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1882-83	18	11	61.1
1883-84	19	9	47.3
1884-85	38	20	52 6
1885-86	14	7	50

Percentage of graduates to matriculates for the years reported, *fifty-two*.

REMARKS: "In addition to the regular course of instruction and requirements for graduation, a professorship of homeopathy, conducted by a distinguished adherent of the law of *similia similibus curantur*, has been established, in which special effort will be made to teach the materia medica and its application to the cure of diseases as completely and thoroughly as in any homeopathic school in the country."

"Also eclectic medicine will be fully illustrated by a competent professor of that school of medicine of large experience, and all that is known as distinctive therein will be as thoroughly taught as possible."

Diplomas not recognized.

WOMAN'S MEDICAL COLLEGE OF ST. LOUIS—(*Homeopathic.*)

St. Louis, Mo.

Organized in 1883. After giving one course of lectures it became extinct.

OCCIDENTAL COLLEGE OF PHYSICIANS AND SURGEONS.

Joplin, Mo.

Incorporated 1886.

BEAUMONT HOSPITAL MEDICAL COLLEGE.

St. Louis, Mo. E. E. Furney, M. D., Secretary, 2905 Chestnut street.

Organized in 1886. The faculty embraces nineteen professors and one demonstrator.

Course of Instruction: The collegiate year embraces a special spring and a regular winter session. Attendance during the former is optional, during the latter, obligatory, as a prerequisite to graduation. The regular winter session began October 4, 1886, and continues until March 1, 1887. Three courses of lectures recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, mental and nervous diseases, ophthalmology, pathology, dermatology, syphilology, otology, diseases of children, orthopedic surgery, diseases of the throat and chest, and climatology, genito-urinary surgery, clinical medicine and clinical surgery.

Requirements: For admission, 1) credible certificate of good moral standing; 2) diploma of graduation from a good literary and scientific college, high school, or a first-grade teacher's certificate. Lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics and natural philosophy.

For graduation: 1) good moral character; 2) twenty-one years of age; 3) two full courses of lectures; 4) three years' study; 5) satisfactory examinations.

Fees: For first course students, in full, $70; for second course students, in full, $80.

No charges for matriculation, demonstrator's nor hospital tickets. Diplomas gratis to those passing satisfactory examination.

NEBRASKA.

OMAHA MEDICAL COLLEGE.

Omaha, Neb. P. S. Teisenring, M. D., Secretary.

Organized in 1881. The outgrowth of a preparatory school, established in 1880, under the name of the Nebraska School of Medicine.

The faculty embraces fourteen professors and a demonstrator.

Course of Instruction: The regular graduating session of 1886-87 began October 4, 1886, and will close March 26, 1887. A three-years' graded course is recommended, but not required. The members of the faculty devote a portion of each day to examinations on the subjects of the previous lectures. Clinics are given at the college and in the hospital.

Lectures embrace, anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology and otology, laryngology, toxicology, diseases of children, diseases of the mind, clinical medicine and clinical surgery.

Requirements: For admission, "All candidates must present to the faculty satisfactory evidence of a good moral character, and must be at least eighteen years of age, and unless holding a certificate or diploma from some literary institution, must pass an examination in the English branches."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) "such primary education as is clearly requisite for a proper standing with the public and the profession;" 4) three years' study; 5) two full courses; 6) clinical instruction for two sessions; 7) practical anatomy (to the extent of having dissected all the regions of the body), and chemistry, one course; 8) full and satisfactory written and oral examination on each branch taught; 9) close attendance on all lectures.

Fees: Matriculation, $5; demonstrator, $5; lectures, $35; graduation, $25; hospital, $5.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	33	8	23
1882-83	30	9	30
1883-84	20	4	20
1884-85	21	8	38
1885-86	28*	5	17.8

Percentage of graduates to matriculates for the past five years, *twenty-five.*

*Not including one graduate who matriculated.

UNIVERSITY OF NEBRASKA, COLLEGE OF MEDICINE.

Regular Department.

Lincoln, Neb. **A. R. Mitchell**, M. D., Dean of the Faculty.

Organized in 1870. The first class was graduated in 1884. The faculty consists of nine professors and one demonstrator.

Course of Instruction: The regular graduating session of 1886-87 began September 16, 1886, and will close March 7, 1887. Instruction consists of didactic and clinical lectures, and laboratory work in each department.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence, hygiene, ophthalmology and otology, orthopedic surgery, diseases of children, clinical medicine, clinical surgery, and microscopy.

Requirements: For admission, "Every candidate for admission to the college must be eighteen years of age, and must present to the chancellor satisfactory evidence of good moral character. He must further sustain a satisfactory examination on the subjects required for a county superintendent's certificate of the second grade, with the addition of elementary chemistry, and by an examination of one or more of the required subjects or by an essay of not less than 300 words assigned at the time, he must show ability to write the English language correct."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) must successfully pursue the study of practical anatomy and practical chemistry; 4) thesis; 5) three years' study; 6) three full courses of lectures; 7) satisfactory examination in all branches taught.

Fees: Matriculation, $5; tuition free; graduation, $5.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	18	3	16.6
1884-85	35	6	17.1
1885-86	23	9	39.1

Percentage of graduates to matriculates for past three years, *twenty-three.*

UNIVERSITY OF NEBRASKA, COLLEGE OF MEDICINE.

Homeopathic Department.

Lincoln, Neb. **Bartlett L. Pain**, M. D., Dean of the Faculty.

Organized in 1883. First class graduated in 1884.

Faculty consists of four professors and two lecturers.

Course of Instruction: Session of 1886-87 began September 16, 1886, and will close March 17, 1887. Medical jurisprudence, surgery, physiology, diseases of the eye and ear are taught by the professors of these branches in the regular department. Obstetrics and diseases of women and children, materia medica and therapeutics, theory and practice of medicine, electro-therapeutics, surgical diseases of women and organic diseases of the chest, comprise the subjects of the chairs at the homeopathic faculty.

Requirements: For admission and graduation—See requirements of regular department.

Fees: Matriculation, $5; tuition free; material for dissecting, at cost; graduation, $5.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	17	3	17.6
1884-85	11	4	36.3
1885-86	9	4	44.4

Percentage of graduates to matriculates for past three years, *twenty-nine*.

UNIVERSITY OF NEBRASKA, COLLEGE OF MEDICINE.

Eclectic Department.

Lincoln, Nebraska.

Organized in 1883.—Extinct 1885.

NEW HAMPSHIRE.

DARTMOUTH MEDICAL COLLEGE.

(New Hampshire Medical Institute.)

Hanover, N. H. Carlton P. Frost, M. D., Dean of the Faculty.

Organized in 1797. The first class was graduated in 1798. Classes have been graduated each subsequent year.

The faculty embraces ten professors and two lecturers.

Course of Instruction: The collegiate year is divided into a lecture course and a recitation term. The regular lecture course for 1886 began July 14, and will close December 1; the recitation term begins January 4, 1887, and continues until June 20. "Clinical instruction will be given to as large an extent as circumstances will permit."

Lectures as follows: The courses in surgery and practice consist of seventy lectures each, with quizzes in addition; in physiology, obstetrics and therapeutics, fifty lectures each; in gynecology, of twenty-five lectures; shorter courses in medical jurisprudence, mental diseases, ophthalmology and hygiene; the course in chemistry consists of lectures and laboratory work.

Requirements: For admission—"Applicants must be eighteen years of age, and, unless already matriculates of some regular medical college or graduates of some reputable college, academy or high school, will be examined as to their fitness for entering upon and appreciating the technical study of medicine. They will be expected to be familiar with the elementary principles of physics (light, heat, electricity, etc.), on entrance."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) three full years' study; 5) dissected all parts of the cadaver; 6) shall pass satisfactory written examinations on all branches taught in the school—anatomy, physiology, chemistry, surgery, obstetrics, therapeutics, gynecology and practice. Two examinations annually.

Fees: Matriculation, $5; lectures, $77; graduation, $25; chemicals, $3; recitation term, $40; chemistry, extra, $15; anatomical material at cost.

*Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877	87	30	34.5
1878	88	23	26
1879	80	26	32.5
1880	78	29	37
1881	91	43	47.2
1882	76	28	36.8
1883	80	40	50
1884	40	18	45
1885	52	13	25
1886	55	15	27.2

Percentage of graduates to matriculates for past ten years, *thirty-six*.

*List of matriculates not given in announcement.

NEW ENGLAND UNIVERSITY OF THE ARTS AND SCIENCES.

MANCHESTER, N. H.

FRAUDULENT.—Extinct. Incorporated 1876.—Act repealed 1877. Exposed by the ILLINOIS STATE BOARD OF HEALTH.

NEW JERSEY.

MEDICAL SOCIETY OF NEW JERSEY.

ORGANIZED in 1776. The society does not give instruction. It was authorized to confer the degree of M.D. in 1866. The section of the act to reorganize the Medical Society of New Jersey and conferring this power, is as follows: "And be it enacted, that the society shall have the authority to confer the degree of M.D., under such rules and regulations as they may adopt, which degree shall be deemed sufficient evidence of a regularly educated and qualified practitioner of the healing art."

Regulations of the society concerning the conferring of the degree of Doctor of Medicine and honorary membership:

SECTION 1. Candidates for the degree of Medicinæ Doctor may apply to any district society of this State, and shall be admitted to examination under the following rules and regulations—

1st. Each district society shall appoint annually, or *pro re nata*, a committee of not less than five members, who shall conduct the examination.

2d. All examinations shall be in the presence of the society at a regular meeting; and no candidate shall be examined until he has given satisfactory evidence of having reached the age of twenty-one years, is of good moral character, and has pursued his medical studies under the care of some regular practitioner for the term of three years, including two courses of lectures in some medical institution in affiliation with the American Medical Association. If he has not graduated at some academic college, then the society shall be satisfied that his preliminary education has been such as to qualify him for the study and practice of medicine.

3d. The examination shall extend to all the branches taught in the medical schools recognized as aforesaid; and the candidate shall then be balloted for by the society; and if he shall receive the approving votes of two-thirds of all the members present, the presiding officer shall give a certificate to that effect to the candidate.

4th. This certificate may be presented at the next or any subsequent regular meeting of this society, not extending beyond the period of three years, with a written thesis upon some medical subject; and if upon a ballot they shall be approved by a majority of the members present, the candidate, upon the payment of fifteen dollars, shall be entitled to receive a diploma.

The honorary degree of M. D. may be conferred by the society, by a vote by ballot of three-fourths of the members present; provided the nomination shall have been made at a preceding meeting, and provided the candidate has been a regular practitioner for the period of seven years.

§ 2. Practitioners of medicine of this or any other State may be admitted as honorary members by a vote by ballot of the society, provided that the nomination be made at a previous meeting. The nomination shall be referred to a special committee of three appointed by the president, and the nominee shall not be considered as eligible to election till the committee reports. The privilege of honorary membership shall not confer the right to vote.

GRADUATES: Eight or ten diplomas have been conferred. Two were conferred in 1881, and one at the last meeting of the society in 1883.

LIVINGSTON UNIVERSITY.

HADDONFIELD, N. J.

A BUCHANAN institution; fraudulent, and now extinct.

HYGEO-THERAPEUTIC COLLEGE.

BERGEN HEIGHTS, N. J.

EXTINCT.

NEW YORK.

COLLEGE OF PHYSICIANS AND SURGEONS IN THE CITY OF NEW YORK.

Medical Department of Columbia College.

NEW YORK CITY. JOHN G. CURTIS, M. D., Secretary, Corner Twenty-third street and Fourth avenue.

ORGANIZED in 1807, by the regents of the University of the State of New York, as their medical department, under the name of the College of Physicians and Surgeons in the City of New York. The institution was connected with the Columbia College for a short period in 1814, and became permanently connected with it in 1860, when the Medical Department of Columbia College was added to the original title. The original Medical Department of Columbia College was organized in 1767; it was suspended during the war of the Revolution and became extinct in 1813. The first class was graduated by this college in 1811. Classes have been graduated each subsequent year.

The faculty embraces twenty-two professors, one assistant professor of chemistry, two adjunct lecturers, two clinical lecturers, three demonstrators, one director physiological laboratory, and twenty-eight clinical assistants.

COURSE OF INSTRUCTION. The session of 1886-87 began October 4, 1886, and will end about the first of May, 1887. Instruction consists of didactic lectures with demonstrations, clinical teaching, recitations, and practical teaching in subjects involving manipulation. Clinics at hospitals and dispensaries free to matriculates and optional. Recitations are held daily by a special corps of examiners, optional; fees required, $50; single branch, $10. Many special courses, fees varying from $12 to $20. A three-years' graded course is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology and otology, diseases of children, diseases of the mind and nervous system, dermatology and laryngology.

REQUIREMENTS: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures on anatomy, physiology, chemistry, materia medica and therapeutics, obstetrics, surgery, pathology and practical medicine; 5) satisfactory examination in seven branches; 6) thesis. The examinations for the degree of Doctor of Medicine are in writing, and are held twice a year, viz: 1) immediately after the close of the lectures of the college year in May; 2) during the second and third weeks of September. According to the merits of his thesis and examinations, three results of the latter are possible in the case of a candidate for the degree of M. D.; 1. He is "passed" when his thesis and examinations have been satisfactory in each and all of the seven principal branches of medical teaching. 2. He is "conditioned" when the average merit of his thesis and examinations has been satisfactory, while in one or more branches he has been found deficient. In this case the candidate can proceed to his degree only on the condition that he first pass a re-examination in the deficient branch or branches, not sooner than at the next regular semi-annual examination. 3. He is "rejected" when the average merit of his thesis and examinations has been unsatisfactory; *in this case the candidate must be re-examined in all the seven branches*, but the writing of a new thesis is rarely required.

Final examinations are held twice a year, viz: immediately after the close of the lectures of the college year, and during the third and fourth weeks of September.

FEES: First session. Matriculation, $5; lectures in anatomy, physiology and chemistry, $60; demonstrator, $10; materials, $5. Second session. Matriculation, $5; lectures, full course, $140. Third session. Matriculation $5; lectures in materia medica, practice, surgery and obstetrics, $80; graduation, $30. Students who graduate at the end of two sessions the fees are: First session, in full, $160; second session, $175.

STUDENTS. Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	413	109	27
1878-79	485	95	19.6
1879-80	513	117	22.8
1880-81.	555	120	21.6
1881-82	547	115	21
1882-83	543	125	23
1883-84	505	105	20.7
1884-85	439	134	30.5
1885-86	*458	97	21.1

Percentage of graduates to matriculates for the past nine years, *twenty-two*.

*Not including 44 graduates who matriculated.

REMARKS: The trustees and faculty announce that to the gift from the late Wm. H. Vanderbilt for a new college building, they are in receipt, since his death, of generous additions, from various members of his family, thus giving the college immensely increased facilities for teaching and research. Upon a portion of the land given to the college there is now in course of erection the "Sloane Maternity Hospital" of the College of Physicians and Surgeons, being the gift of William D. Sloane, Esq., of New York, whose wife, a daughter of the late Mr. Vanderbilt, has endowed this hospital by making all of its thirty beds free in perpetuity. It will be opened in the spring of 1887, and will be under the direction of the Professor of Obstetrics of the college.

Upon another portion of the land work has begun upon the building to be known as the "Vanderbilt Clinic" of the College of Physicians and Surgeons, created and endowed at a cost of $250,000, by the four sons of the late Mr. Vanderbilt, as a memorial of their father. This building will contain a dispensary and all the clinical instruction of the college will be given here.

COLLEGE OF PHYSICIANS AND SURGEONS OF THE WESTERN DISTRICT OF NEW YORK.

FAIRFIELD, N. Y.

ORGANIZED in 1812.—Extinct since 1840. During its existence it afforded instruction to 3123 students and graduated 589.

NEW MEDICAL INSTITUTION.

Medical Department of Queen's College, New Jersey.

NEW YORK CITY.

ORGANIZED in 1814; suspended in 1816. In 1826 the Medical Institution was revived under the auspices of Rutger's (formerly Queen's) College, N. J., but became extinct in 1830. It is probable that the diplomas issued after its revival were illegal.

NEW YORK SCHOOL OF MEDICINE.

NEW YORK CITY.

ORGANIZED under the auspices of the New York County Medical Society in 1831.

NEW YORK REFORMED MEDICAL COLLEGE—(*Eclectic.*)

NEW YORK CITY.

ORGANIZED in 1836.—Extinct, 1838.

AUBURN MEDICAL SCHOOL.

AUBURN, N. Y.

EXTINCT.—Date of organization and extinction unknown.

ALBANY MEDICAL COLLEGE.

Medical Department of Union University.

ALBANY, N. Y. WILLIS G. TUCKER, M. D., Registrar, 4 Lancaster street.

ORGANIZED in 1838. Incorporated and graduated its first class in 1839. It became connected with Union University in 1873, when the present title was assumed.

The faculty embraces thirteen professors, one adjunct professor, and one demonstrator.

COURSE OF INSTRUCTION: The regular graduating session of 1886-87 began September 21, 1886, and will close March 16, 1887. Written examinations are held monthly; clinics at hospitals and dispensary. A three-years' graded course is substantially required for graduation.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, dermatology, psychological medicine, ophthalmology and otology, diseases of women and children, diseases of the throat and chest, and diseases of the nervous system.

Requirements: For admission—"Graduates from recognized colleges, scientific schools or medical institutions, and students presenting certificates of competency from the censors of the medical society of the county from which they come, will not be required to pass the preliminary examination on joining the school. All others will be required to pass the examinations by a page written at the time, of which the orthography, grammatical construction and penmanship will be considered, and in arithmetic, grammar, geography and the elements of natural philosophy.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years study; 4) "three years' graded course in this college, or the equivalent of the first two courses elsewhere and the last in this college," except as hereafter provided; 5) thesis; 6) "satisfactory examination in the several branches of medicine and surgery, final examination being conducted chiefly in writing." Regular and punctual attendance is required.

The proviso above referred to is as follows: "1) That graduates of recognized literary colleges, scientific schools or colleges of pharmacy will be allowed to present themselves for graduation at the end of their second full course if all other requirements for graduation are fulfilled; 2) that students desiring to enter the second year class may do so if they successfully pass an examination in anatomy, materia medica, chemistry and physiology, and are deemed competent so to enter; and 3) that students who have attended a full course of lectures in this college or elsewhere may enter the senior class on passing a satisfactory entrance examination in all the departments. Students entering the second year class, in either instance as above provided, must attend the full course of lectures each year, and are examined in all the branches at the end of their second course. Students entering the senior class as above provided must attend the full course of lectures, and are examined in all the branches at its close."

Fees: Matriculation, $5; lectures, $100; demonstrator, $10; graduation, $25; laboratory, $10.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	153	31	20.2
1878-79	161	43	26.7
1879-80	178	46	25.8
1880-81	172	58	33.7
1881-82	170	54	31.7
1882-83	157	51	32.5
1883-84	149	43	28.8
1884-85	142	33	23.2
1885-86	*142	40	28.1

Percentage of graduates to matriculates for the past nine years, *twenty-eight*.

*Not including 3 graduates who matriculated.

GENEVA MEDICAL COLLEGE.

Geneva, N. Y.

Organized in 1839.—Extinct. Merged into the College of Medicine of Syracuse University in 1872—which see.

UNIVERSITY OF THE CITY OF NEW YORK, MEDICAL DEPARTMENT.

University Medical College.

New York City. Charles Inslee Pardee, M. D., Dean, 410 E. Twenty-sixth street.

Organized in 1841. The first class was graduated in 1842. Classes have been graduated each subsequent year.

The faculty embraces fifteen professors, six clinical professors, fourteen instructors, one demonstrator, twelve clinical assistants and nine lecturers.

Course of Instruction: The collegiate year is divided into three sessions; a preliminary term, which began September 15, 1885, and continued until September 29; the regular winter course then began, and will continue to the first of March, 1887, to be followed by a spring session of ten weeks immediately thereafter. Instruction consists of didactic and clinical lectures, recitations, practical demonstrations of subjects involving manipulation and practice at the bedside and in the laboratories.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology, otology, orthopedic surgery, dermatology and mental diseases, and bacteriology.

Requirements: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) "two winter sessions of lectures;" 4) three years' study; 5) one course of practical anatomy; 6) satisfactory written examinations on surgery, chemistry, practice of medicine, materia medica, anatomy, physiology and obstetrics. Rejected candidates will not be permitted to apply for a re-examination for one year. Honorary degrees are not granted. Two commencements take place annually, at either of which the candidates who have complied with the above requirements may graduate; the first is at the close of the winter, the second at the close of the spring session.

Fees: Matriculation, $5; lectures, $140; demonstrator, $10; graduation, $30; private instruction in practical branches, averaging $12 per course.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	509	153	30
1878-79	556	204	36.7
1879-80	609	205	33.6
1880-81	623	200	32.1
1881-82	575	213	37
1882-83	528	163	30.8
1883-84	526	164	31.1
1884-85	533	175	32.8
1885-86	*547	173	31.6

Percentage of graduates to matriculates for the past nine years, *thirty-two*.

Remarks: "With a view to the final establishment of a systematic graduated scheme of tuition, students who have attended two full courses of lectures, and who have completed two years of study, may be admitted to a special examination in chemistry, anatomy, and physiology, and, if successful, will be examined at the end of the next winter session on practice, materia medica and therapeutics, surgery and obstetrics."

☞ "The faculty take great pleasure in announcing that they have just received a gift of one hundred thousand dollars for the erection and equipment of a special laboratory building, to be known as the "Loomis Laboratory" of the University Medical College. They have purchased a plot of ground adjoining their present property, and will proceed as soon as possible to construct the new building, and make the alterations in the present one needed to give the fullest effect to this generous gift. They will also thereby be enabled greatly to enlarge their Dispensary, and increase the facilities for clinical instruction and direct observation which have been so marked and valuable a feature in the instruction offered by the College during the last few years."

*Not including 21 graduates who matriculated.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF BUFFALO.

Buffalo, N. Y. Charles Cary, M. D., Secretary, 340 Delaware avenue.

Organized in 1846. The first class was graduated in 1847. Classes have been graduated each subsequent year.

The faculty embraces eleven professors, one adjunct professor, two clinical professors, two lecturers, three clinical lecturers and one demonstrator. The spring faculty consists of seven lecturers.

Course of Instruction: The regular term of 1886–87 began September 21, 1886, and will continue twenty-two weeks. The spring course begins the first Monday after commencement, and continues eight weeks. The course of instruction includes scholastic and clinical teaching, with systematic recitations and special instructions. A three years' graded course is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, toxicology, ophthalmology and otology, psychological medicine, dermatology and microscopy, genito-urinary and venereal diseases, nervous diseases, orthopedic surgery and laryngology.

Requirements: For admission—"A certificate from the student's preceptor, of his moral character, and that he is duly entered and properly qualified to study medicine, must be presented, on matriculating. The responsibility of sufficient preliminary education rests, of necessity, with the private instructor."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) "dissection of the lateral half of the subject, either here or elsewhere;" 5) two full courses of lectures; 6) satisfactory examination in the several departments; 7) thesis.

Fees: Matriculation, $5; lectures, $100; demonstrator, $10; graduation, $25; spring course, $15.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	114	42	36.8
1878-79	126	40	31.7
1879-80	138	53	38.3
1880-81	154	48	31.1
1881-82	172	65	37.8
1882-83	178	57	32
1883-84	155	62	40
1884-85	134	48	35.8
1885-86	*132	43	32.5

Percentage of graduates to matriculates for the past nine years, *thirty-five.*

*Not including one graduate who matriculated.

ROCHESTER ECLECTIC MEDICAL COLLEGE.

ROCHESTER, N. Y.

Organized in 1848. Lectures delivered during three or four sessions.—Extinct, 1852.

CENTRAL MEDICAL COLLEGE OF NEW YORK—(*Eclectic.*)

SYRACUSE, N. Y.

Organized, 1848.—Extinct, 1855.

SYRACUSE MEDICAL COLLEGE—(*Eclectic.*)

SYRACUSE, N. Y.

Organized in 1849.—Extinct, 1855.

NEW YORK MEDICAL COLLEGE.

NEW YORK CITY.

Organized in 1852. The last session was held in 1863-64.

MEDICAL COLLEGE OF NEW YORK CITY.

NEW YORK CITY.

Extinct.

EXCELSIOR MEDICAL COLLEGE.

NEW YORK CITY.

Extinct.

METROPOLITAN MEDICAL COLLEGE—(*Eclectic.*)

NEW YORK CITY.

Organized in 1852; incorporated March, 1857; charter repealed April 12, 1862.—Extinct.

HYGEO-THERAPEUTIC COLLEGE OF NEW YORK.

NEW YORK CITY.

Chartered, 1856.—Extinct, 1866.

LONG ISLAND COLLEGE HOSPITAL.

BROOKLYN, N. Y. WILLIAM J. OSBORNE, Secretary Board of Regents, Henry street, between Pacific and Amity streets.

INCORPORATED in 1858. First class was graduated in 1860; classes have been graduated each subsequent year.

Faculty embraces twelve professors. There are seven professors of special subjects, one demonstrator of anatomy, and sixteen assistants to the various chairs. During the reading term there are engaged twelve lecturers and one demonstrator.

COURSE OF INSTRUCTION: The collegiate year is divided into a regular term and a reading term; the former for the session of 1886-87, began October 6, 1886, and continues until March 2, 1887. The reading term will begin March 7, 1887, and continue three months. A graded course, extending over two collegiate years of nine months each, is recommended, but not required; fifty per cent. of the entire class have taken this course for the past four years.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, laryngology, toxicology, ophthalmology and otology, diseases of children, dermatology, nervous diseases and genito-urinary diseases.

REQUIREMENTS: For admission—"In the early part of the regular term candidates will have oral and written examinations, for the purpose of testing their general literary qualifications. Students who have already passed the written examinations in the elementary departments, and graduates of literary, scientific and medical schools will not be required to pass the examination for general literary qualifications."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures, not completed in the same twelve months; 5) practical anatomy, to the extent of having dissected each region of the body; 6) one course of practical chemistry and urine analysis; 7) one course in practical histology and pathology; 8) pass satisfactory examinations, both oral and written, in chemistry, histology, anatomy, physiology, materia medica, therapeutics, pathology, gynecology, obstetrics, surgery, and practice of medicine.

FEES: Matriculation, $5; demonstrator, $5; chemical laboratory, $5; pathological laboratory, $5; lectures $100; reading term, $40; graduation, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	120	40	33.3
1878-79	115	33	28.7
1879-80	118	43	36.5
1880-81	141	51	36.1
1881-82	159	61	38.3
1882-83	154	51	33.4
1883-84	122	37	30.3
1884-85	119	47	39.4
1885-86	*109	49	44.9

Percentage of graduates to matriculates during the last nine years, *thirty-five*.

REMARKS: Dr. C. N. Hoagland, a physician of Brooklyn, and a member of the Board of Regents of the Long Island College Hospital, is about to erect a laboratory for the advancement of medical science on his property opposite the college building. It will be known as "The Hoagland Laboratory" of the Long Island College Hospital. The building will be specially adapted to scientific research in all the important departments of the study of medicine, more particularly in histology, physiology, bacteriology and pathology. All the apparatus necessary for such work will be provided. A fine library will be among the attractive features of this munificent benefaction. It will have a large auditorium in which lectures will be given to the students of the college and to the profession and the people of Brooklyn. It is expected that the building will be in readiness at the opening of the regular term of the college in October.

*Not including one graduate who matriculated.

NEW YORK HOMEOPATHIC MEDICAL COLLEGE.

NEW YORK CITY. L. L. DANFORTH, M. D., Secretary, 149 W. Forty-fourth street.

ORGANIZED in 1860. The first class was graduated in 1861. Classes have been graduated each subsequent year.

The faculty embraces twenty-two professors, one assistant professor, three lecturers, ten clinical assistants and instructors, and two demonstrators.

COURSE OF INSTRUCTION: The session of 1886-87 opened October 5, 1886, and terminates April 14, 1887. The course of instruction is graded, and provision is made for three classes of students—a junior, a middle and a senior class; but the curriculum for graduation may be completed in two courses of lectures.

Lectures embrace anatomy, physiology, chemistry and toxicology, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence, hygiene and sanitary science, diseases of the heart and lungs, diseases of children, laryngology and rhinology, mental and nervous diseases, ophthalmology and otology, orthopedic surgery, dermatology and genito-urinary diseases, histology, microscopy, diseases of the kidney, pharmaceutics, and laboratory drill.

REQUIREMENTS: For admission—"Students must present credible certificates of good moral character and a diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate. Or, lacking this, he must pass a thorough examination in the branches of a good English education, including English grammar, rhetoric, spelling, etc., as shown in written examinations, arithmetic as far as square root, U. S. history, geography, elementary physics or natural philosophy, as given in Prof. Balfour Stewart's Science Primer (Physics)."

"Any student who presents his diploma of graduation from a reputable literary and scientific college, or high school, or a first-grade teacher's certificate, or a certificate of having passed the entrance examination for either Harvard or Yale college, will be excused from further entrance examinations."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; 5) one course of practical anatomy; 6) satisfactory examination in each department; 7) thesis.

FEES: Matriculation, $5; lectures, $125; demonstrator, $10; graduation, $30. For graded course—lectures for three years, $200.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	152	38	25
1878-79	152	40	26.3
1879-80	128	33	25.8
1880-81	165	54	32.7
1881-82	146	36	24.6
1882-83	145	47	32.4
1883-84	153	53	34.6
1884-85	130	40	30.7
1885-86	*138	41	29.7

Percentage of graduates to matriculates for past nine years, *twenty-nine*.

*Not including two graduates who matriculated.

BELLEVUE HOSPITAL MEDICAL COLLEGE.

NEW YORK CITY. AUSTIN FLINT, M. D., LL. D., Secretary of the Faculty.

ORGANIZED in 1861. First class was graduated in 1862. Classes have been graduated each subsequent year.

The faculty embraces twelve professors, seven professors of special departments, one lecturer, four demonstrators, twenty assistants to chairs, and three prosectors. Members of the faculty and others, to the number of twenty-one, give instruction during the spring term.

COURSE OF INSTRUCTION: The collegiate year is divided into two sessions. The winter session of 1886-87 began September 22, 1886, and will close the latter part of March, 1887. The spring session will begin the latter part of March, 1887, and continue until the middle of June. Attendance upon three courses of lectures is recommended, but not required, and provision is made for the examination of those pursuing this plan. Hospital clinics are numerous. Regular weekly quizzes are held by members of the faculty upon the subjects of the lectures; these examinations are confined to candidates for graduation.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, orthopedic surgery, ophthalmology and otology, cutaneous and genito-urinary diseases, diseases of children, toxicology, diseases of the throat. Private courses on practical subjects are given by the faculty and instructors; average fee, $20.

REQUIREMENTS: For admission—None, except for those who expect to present their tickets or diplomas for recognition in Great Britain. For such, a special matriculation examination is provided, upon the following subjects: English language, including grammar and composition; arithmetic, including vulgar and decimal fractions; algebra, including simple equations; geometry, first two books of Euclid; Latin, translation and grammar. In addition to the above, one of the following optional studies is required: Greek, French, German or natural philosophy, including mechanics, hydrostatics and pneumatics; text-books: Latin—Cæsar (De Bello Galico), first two books; natural philosophy—Peck's Ganot, or Parker's Philosophy; Greek—first chapter of St. John's Gospel; French—first chapter of Telemaque, or Charles XII.; German—Adler's Reader, first part. From those who expect to practice only in this country this examination is not required. "It is assumed that preceptors sending students to the college have satisfied themselves that their pupils have received proper preliminary education, and the college does not require a matriculating examination; but students who intend to practice in States in which the laws require a preliminary examination for those not provided with literary degrees or other evidences of scholarship as one of the conditions for a license to practice medicine, may pass the required preliminary examination at the college, and will receive a certificate of having passed such examination from the secretary."

For graduation: 1) twenty-one years of age; 2) proper testimonials of character; 3) three years' study; 4) two full courses of lectures; 5) satisfactory examination in each of the seven departments of instruction, viz: practice of medicine, surgery, obstetrics, materia medica and therapeutics, physiology, anatomy and chemistry—the examinations upon practice of medicine and surgery include diseases of the nervous system, pathological anatomy, ophthalmology and diseases of the skin; 6) one course of practical anatomy; 7) one course of normal and pathological histology and microscopical examination of urine.

Fees: Matriculation, $5; lectures, $140; demonstrator, $10; pathological laboratory, $10; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	423	130	30.7
1878-79	450	165	36.6
1879-80	502	142	28.3
1880-81	379	118	31.1
1881-82	480	163	34—
1882-83	467	167	35.7
1883-84	434	149	34.3
1884-85	365	134	36.7
1885-86	386	139	36+

Percentage of graduates to matriculates for the past nine years, *thirty-three*.

Remarks: There are three regular examinations for the degree: one at the close of the winter session, one at the close of the spring session, and one during the first week in October. The June and October examinations are exclusively for the benefit of those students who have attended the courses of lectures required, the last course being at this college, but whose time of study does not expire until the summer or fall. Graduates of other accredited colleges are examined in all the departments, the same as undergraduates, and must fulfill all the requirements demanded of undergraduates. The faculty will not grant a degree to any graduate of three or more years' standing who does not exhibit to the secretary a certificate of membership in some regular medical society. This rule is invariable.

The faculty announce the completion of the "Carnegie Laboratory," the gift of Andrew Carnegie, of the Board of Trustees. The building is 50×100 feet and five stories high. It contains, in addition to three general laboratories and private rooms for original work, a large auditorium for teaching by lectures. It is but a few yards distant from the college and the "advantages offered by this most important addition to the educational resources of the college are open to all interested in such work as the new laboratories are designed to promote," i. e.: mainly physiology, pathology, and experimental therapeutics.

Names of matriculates for 1885-86 not given.

NEW YORK MEDICAL COLLEGE AND HOSPITAL FOR WOMEN—(*Homeopathic*).

New York City. Clemence S. Lozier, M. D., Dean, 103 W. Forty-eighth street.

Organized in 1863. The first class was graduated in 1864. Classes have been graduated each subsequent year.

The faculty embraces fifteen professors, two assistant professors, one adjunct professor and one lecturer.

Course of Instruction: The regular session of 1886-87 began October 1, 1886, and continues twenty-six weeks. The curriculum of studies extends over a three-years' graded course, and is arranged as follows: "First year, theoretical and inorganic chemistry, physiology, general and descriptive anatomy, histology, hygiene—dissections will be obligatory on all students of this year.—Second year, organic chemistry, with toxicology, histology and pathological anatomy, physiology, anatomy, hygiene, materia medica, surgery, gynecology, diseases of children, obstetrics, pathology and practice of medicine. Students of this year are expected to finish their dissections to the satisfaction of the professor of anatomy.—Third year, continuation of pathology and practice of medicine, materia medica, obstetrics, gynecology, diseases of children, surgery, ophthalmology and otology, diseases of the chest, medical jurisprudence, pathological anatomy, mental and nervous diseases. During the year students are required to attend the various clinics of the college. Each student will also be required to take charge of obstetrical cases." Actual attendance on lectures is required.

Requirements: For admission—"Applicants for matriculation are required to give satisfactory testimony of moral character, together with proof of having arrived at the age of eighteen years: they must present a certificate of graduation from some reputable school or pass an examination in the English branches."

For graduation: 1) twenty-one years of age; 2) three full years' study; 3) three complete courses of lectures; 4) thesis; 5) satisfactory examinations both before the faculty and the board of censors.

Fees: Matriculation, paid but once, $5; lectures, per session, $75; demonstrator, $10; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	—	27	—
1878-79	—	6	—
1879-80	—	7	—
1880-81	—	5	—
1881-82	—	10	—
1882-83	—	8	—
1883-84	—	8	—
1884-85	30	13	43.3
1885-86	39	13	33.3

Percentage of graduates to matriculates for the past two years, *thirty-seven*.

Name of matriculates not given in announcement.

Remarks: The trustees announce that "they have made the course of study *unequivocally a three years' graded course.* * * * While studying one year with a preceptor may be excellent preparation for entering college, it can not take the place of the instruction given during the first year in college; hence this decision by the board." There is no provision for admitting students to advanced standing by examination; but a literal compliance with the requirements of attendance upon three full lecture terms is specified as a condition of graduation.

ECLECTIC MEDICAL COLLEGE OF THE CITY OF NEW YORK.

New York City. George W. Boskowitz, M. D., Dean, 1 Livingston Place.

Organized in 1865. The first class was graduated in 1866. Classes have been graduated each subsequent year.

The faculty embraces eight professors, six lecturers, and one demonstrator.

Course of Instruction: The twenty-fifth annual session began October 4, 1886, and will continue six months; clinics in hospital and dispensary.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and diseases of women and children, medical jurisprudence, toxicology, and diseases of the eye, throat and skin, nervous diseases and insanity, hygiene, electro-therapeutics and forensic medicine.

Requirements: For admission—"Candidates for matriculation will be required to produce written evidence by persons of good repute as to their moral character and standing, in addition to which they will be required to furnish proof that they have received a good English education, including mathematics, composition, and natural philosophy."

For graduation: 1) twenty-one years of age; 2) three years' study under the supervision of a reputable physician; 3) two full terms of instruction; 4) a thesis on some medical subject.

Fees: Matriculation, $5; lectures, $100; demonstrator, $10; analytical chemistry, $10; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	107	26	24.3
1878-79	138	24	17.4
1879-80	143	32	22.3
1880-81	215	64	29.7
1881-82	146	50	34.2
1882-83	131	37	28.2
1883-84	96	19	19.7
1884-85	45	11	24.4
1885-86	*74	15	20.2

Percentage of graduates to matriculates for the past nine years, *twenty-five*.

*Not including four graduates who matriculated.

BROOKLYN ACADEMY OF MEDICINE.

Brooklyn, N. Y.

(Auxiliary to the Eclectic Medical Society of N. Y.). Incorporated April 24, 1865. Charter revoked about 1880.

WOMAN'S MEDICAL COLLEGE OF THE NEW YORK INFIRMARY.

New York City. Emily Blackwell, M. D., Dean, 128 Second avenue.

Organized in 1868. The first class was graduated in 1870. Classes have been graduated each subsequent year.

The faculty embraces nine professors, four clinical professors, six lecturers, two lecturers adjunct, one demonstrator and eleven instructors.

Course of Instruction: "The college year is divided into two terms of four months' each, and half of the studies appropriate to the year are alloted to each of these terms. The first term lasts from October 1 to February 1. The second from February 1 to May 15. The course of study required to render a student eligible for graduation covers three college years. Those students who wish to do so, may, however, divide the second of their three years into two, thus completing their course in four years."

Division of studies: "First year—Anatomy and dissecting; physiology; materia medica and histology; students will also dissect and work in the pharmaceutical, chemical and histological laboratories. Second year—Anatomy, physiology, chemistry, pathological anatomy, practice, surgery, obstetrics, therapeutics and hygiene. Third year—Practice, pathological anatomy, surgery, hygiene, obstetrics and therapeutics. During this year each student enjoys the privilege of attending upon ten cases of obstetrics in the infirmary wards; of witnessing operations at the infirmary, as also at other hospitals in the city, and may listen to the clinical lectures at Bellevue." Each professor quizzes on his own lectures, and an instructor is attached to each chair to assist in quizzing.

Requirements: For admission—Students entering the graded college course, unless they bring a diploma from some recognized literary school, will be required to pass a preliminary examination in the following branches: 1. Orthography, English composition and penmanship, by means of a page written at the time and place of examination. 2. Definitions and synonyms as found in "The Scholar's Companion." 3. Latin, thorough declensions and conjugations. 4. Arithmetic in denominate numbers, fractions, proportion, percentage and the roots. 5. Algebra, Davies' Elementary, through simple equations. 6. Geometry, Davies' Legendre, first and second books. 7. Botany, physics and chemistry, as found in "Science Primers," edited by Profs. Huxley, Roscoe and Balfour Stewart.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) must give evidence of having studied medicine during three years, have spent at least one continuous year at this school (if only one this must be the last year); 4) a thesis on some medical subject; 5) satisfactory examinations before the faculty and the board of examiners will also be required.

Fees: Matriculation, $5; professor's tickets, $60 first year. $105 second year; $45 third; demonstrator's, $10 first and second year; laboratory fees, $15 first year, $5 second; dissection, $10 first year, $5 third; reading room, 50 cents per year; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	—	7	—
1878-79	—	10	—
1879-80	—	11	—
1880-81	60	8	13.3
1881-82	49	10	20.4
1882-83	40	5	12.5
1883-84	40	9	22.5
1884-85	33	11	33.3
1885-86	34	8	23.5

Percentage of graduates to matriculates for past six years, *nineteen*.

NEW YORK FREE MEDICAL COLLEGE FOR WOMEN.

New York City.

Organized in 1871.—Extinct, 1877

COLLEGE OF MEDICINE OF SYRACUSE UNIVERSITY.

SYRACUSE, N. Y. WILLIAM T. PLANT, M. D., Registrar, 18 Harrison street.

ORGANIZED in 1872, as the College of Physicians and Surgeons of Syracuse University. In 1875 assumed its present title. The Geneva Medical College organized in 1836, was merged into this institution. The first class was graduated in 1873. Classes have been graduated each subsequent year.

The faculty embraces thirteen professors, two lecturers, seven instructors, and a director of anatomical laboratory.

COURSE OF INSTRUCTION: The college year begins the first Tuesday in October and ends on the second Thursday in June. Attendance at college during a three years' graded course is recommended, but not absolutely required. Students are divided into three classes, according to their proficiency and time of study. Studies—"First year: anatomy, physiology, chemistry, histology and botany. Second year: anatomy, physiology, medical chemistry, materia medica, practice, surgery, and clinics. Third year: therapeutics, practice, surgery, obstetrics, pediatrics, pathology, gynecology, forensic medicine, ophthalmology and clinics."

REQUIREMENTS: For admission—Evidence of possessing a fair preliminary education or examination in the branches of a common English education. Students who have already pursued the study of medicine to some extent, may be examined and promoted to such advanced standing as their acquirements entitle them to. Candidates for the second year will come prepared for the examination in anatomy on the bones, joints, and muscles; on nutrition in physiology; on the inorganic part of Atfield's chemistry; on the optical principles of the microscope, with thirty different objects, prepared and mounted by themselves, and on the principles of botany.

For graduation: 1) twenty-one years of age; 2) good character; 3) three years' study, the last of which, at least, must have been spent in this school; 4 satisfactory examinations.

FEES: Matriculation, $5; lectures for the year, $100; for either term alone, $65; chemical laboratory, $10; anatomical laboratory, $10; graduation, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1878-79	40	5	12.5
1879-80	51	6	11.7
1880-81	60	20	33.3
1881-82	45	11	21.4
1882-83	44	12	27.2
1883-84	46	11	23.9
1884-85	38	11	29
1885-86	41	11	26.8

Percentage of graduates to matriculates for past eight years, *twenty-three.*

REMARKS: "Besides the faculty examinations, candidates for the degree are examined orally by the college censors."

THE REGENTS OF THE UNIVERSITY OF NEW YORK STATE.

OFFICE AT ALBANY, N. Y.

FROM the law conferring the power of granting diplomas, passed in 1872, the following is taken.

The regents of the University shall not grant a diploma conferring the degree of Doctor of Medicine upon any one who has not, for at least three years after the age of sixteen, pursued the study of medical science with some physician or surgeon duly authorized to practice; and also attended two complete courses of all the lectures delivered to an incorporated medical college. The regents of the University in the State of New York are authorized to appoint one or more boards of examiners in medicine, which shall consist of not less than seven regularly licensed physicians and surgeons in the State. This board shall examine all candidates, referred to them by the chancellor, in anatomy, physiology, materia medica, pathology, histology, clinical medicine, chemistry, surgery, midwifery and therapeutics.

All persons who are over twenty-one years of age, of good moral character, and can produce to the chancellor satisfactory proof that they have competent knowledge of all the branches of learning taught in the common schools of the State, and of the Latin language, and have diligently studied medicine for not less than three years, can apply to the chancellor for an examination by the board of examiners. The fee for an examination shall be $25. The regents shall grant, to any candidate who has been recommended by five members of the board of examiners, a diploma conferring the degree of Doctor of Medicine from the University of New York. Ten dollars must be paid for this diploma.

UNITED STATES MEDICAL COLLEGE—(*Eclectic*).

NEW YORK CITY.

ORGANIZED in 1878, in a manner which has since been declared illegal by the State Supreme Court.—Extinct since 1882.

COLLEGE OF PHYSICIANS AND SURGEONS OF BUFFALO.

BUFFALO, N. Y. Extinct.

ORGANIZED in 1879, in a manner which has been decided illegal by the Supreme Court of the State. The first class was graduated in 1880. No class graduated in 1882. From a circular issued prior to the last session, the following extracts are taken: "The character of the teachings will, as in the past, be liberal to the fullest extent; allopathy and homeopathy being thoroughly taught by an able staff of medical men. Liberal medicine is rapidly surpassing the old and 'bigotted' system, whose graduates should not be considered thoroughly 'competant' to go out into the world to practice the *healing art*, whereas, Liberal Medicine gives them a thorough knowledge of *all* the useful systems, thereby enabling them to more successfully cope with disease and death."

MEDICAL DEPARTMENT OF NIAGARA UNIVERSITY.

BUFFALO, N. Y. A. A. HUBBELL, M. D., Secretary, 212 Franklin street.

ORGANIZED in 1883. The faculty embraces twelve professors, three lecturers, and two demonstrators, and two assistants to the chairs of obstetrics and materia medica.

COURSE OF INSTRUCTION; The fourth regular course of lectures began September 29, 1886, and will continue until April 12, 1887. The time of study required is three years, including three full terms of medical lectures of six months each, and an extension to four years is recommended.

Division of studies: First year—general chemistry, materia medica, pharmacy, histology, anatomy, physiology dissections, laboratory work. Examinations at the end of the year in general chemistry, materia medica and pharmacy. Second year—medical chemistry, anatomy, physiology, pathology, therapeutics, hygiene, obstetrics, principles and practice of medicine, principles and practice of surgery, dissections, laboratory work, clinics. Examinations at the end of the year in medical chemistry, anatomy (completed), physiology (completed), pathology, therapeutics (general, and obstetrics in part. Third year—special therapeutics, principles and practice of medicine, principles and practice of surgery, operative surgery, obstetrics, diseases of children, diseases of women, diseases of the eye, ear and throat, diseases of the skin, diseases of the nervous system and insanity, genito-urinary diseases, medical jurisprudence, clinical instruction in each department. Examinations at the end of the year for the degree. Students who have attended one full course of lectures elsewhere will be admitted to the second year of this school, after passing the examinations of the first year's studies.

REQUIREMENTS: For admission—"Students desiring to be admitted to the curriculum of this school must present evidences of a good moral character; they must possess a sufficient knowledge of the fundamental branches of education to enable them to profitably pursue the study of medicine. Candidates not presenting such evidences of preliminary qualifications will be required to pass an examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy, and in Latin, including Arnold's 'First Latin Book' or its equivalent." Students not possessing the required amount of Latin may enter conditionally "upon their qualifying themselves by the beginning of the second year." Those who have received a collegiate degree, who have passed the matriculatory examination of a recognized college, or who have a certificate covering the required subject from a recognized normal or high school, or other institution, may enter without examination.

For graduation, 1) twenty-one years of age; 2) a liberal education; 3) at least three years' study of medicine; 4) a good moral character; 5) at least three full courses of medical lectures; 6) completion of the curriculum of this school; 7) satisfactory final examinations before the faculty and board of examiners.

FEES: Matriculation, $5; lectures, $60; demonstrator, $10; graduation, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	13	—	——
1884-85	23	—	——
1885-86	35	6	17.1

Percentage of graduates to matriculates for the past three years, *eight*.

NORTH CAROLINA:

BOARD OF MEDICAL EXAMINERS OF NORTH CAROLINA.

WILMINGTON, N. C. W. J. H. BELLAMY, M. D., Secretary.

INCORPORATED 1859. The Board of Medical Examiners of the State of North Carolina is a body separate and distinct from the State Board of Health—its duty being to examine all applicants for license to practice medicine or surgery, or any of the branches thereof, in the State. It is composed of seven members, who are elected by the State Medical Society, and who serve for a period of six years. Its powers are derived from acts of the Legislature, which have been amended at different times since the year 1859, when the first act creating a Board of Medical Examiners was passed. No penalty originally attached to the failure to comply with the provisions of the act, except inability to collect a medical bill by law. In the year 1885, an amendment was passed fixing the penalty at a minimum of twenty-five or a maximum of one hundred dollars, or imprisonment for each and every offence.

Each applicant for license must give written evidence that he is of good moral character and twenty-one years of age; must submit to an examination in 1) surgery and surgical pathology and diseases of the eye and ear; 2) chemistry and pharmacy; 3) anatomy; 4) physiology and medical hygiene; 5) materia medica and therapeutics; 6) obstetrics and diseases of women and children; 7) practice of medicine and medical pathology. Applicants must answer sixty-six and two-thirds per cent. of all the questions satisfactorily. (In the future the standard will be raised to at least 70 per cent.)

Temporary licenses may be issued in the interim between the regular annual meetings, by any two members of the Board, to hold good only until the next annual meeting thereafter. The fee for temporary license is $5; for permanent license, $10.

The annual meetings are held at the same time and place as those of the State Medical Society. The last was held at Newberne, N. C. There were sixty-three applicants. Forty-six were granted licenses. Several applicants were allowed to withdraw their applications.

Year.	Applicants.	Licensed.	Percent.
1886	63	46	73

The next annual meeting will be held at Charlotte, in April, 1887.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF NORTH CAROLINA.

CHAPEL HILL, N. C.

ORGANIZED in 1796. This school only gives instruction in medicine, and does not now grant degrees. It granted diplomas in former years.

EDINBOROUGH MEDICAL COLLEGE.

INCORPORATED 1868. The college was located in the backwoods of Robeson County, near Lumberton, a small town of five hundred inhabitants. When the only professor (Dr. McLean) died a few years ago, the school became extinct. A number of its diplomas are found in North Carolina and adjoining States.

LEONARD MEDICAL SCHOOL.

Medical Department of Shaw University.

RALEIGH, N. C. C. S. PRATT, M. D., Dean of the Faculty.

ORGANIZED in 1882, for the education of colored students of both sexes. The faculty consists of six professors.

COURSE OF INSTRUCTION: The session of 1886-87, beginning November 1, 1886, continues five months. Graded course of study, extending over four years.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, laryngology, ophthalmology and otology, diseases of children, dermatology and diseases of the nervous system.

Order of studies: First year—anatomy, physiology, general chemistry, and materia medica; second year—practical anatomy, medical chemistry, physiology, pathological anatomy, practice of medicine and surgery; third year—therapeutics, obstetrics, theory and practice of medicine and surgery; fourth year—ophthalmology, otology, dermatology, syphilis, laryngology, diseases of the nervous system, diseases of women, diseases of children, operative surgery, forensic medicine, and clinical instruction.

Requirements: For admission—"Applicants must be at least eighteen years of age, and will be required to pass a preliminary examination sufficient to show their fitness to enter upon the study of medicine, unless they can furnish a certificate of their previous standing in school from some principal or president of a reputable institution of learning." A literary course of two years' duration, preliminary to the medical course, has been established by the university.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) four years' graded course; 4) dissect the entire cadaver; 5) thesis; 6) satisfactory examination, an average of seventy-five per cent. being required to pass.

Fees: Matriculation, $5; lectures, $60; graduation, $10; incidentals, $3.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	12	—	—
1884-85	17	—	—
1885-86	26	6	23+

Percentage of graduates to matriculates for past three years. *ten.*

OHIO.

MEDICAL COLLEGE OF OHIO.

Cincinnati, O. James G. Hyndman, M. D., Secretary. 22 W. Ninth street.

Organized in 1819. The first class was graduated in 1821. Classes have been graduated each subsequent year. In 1858 the Miami Medical College was merged into this institution, and continued in this relation until 1865, when the Miami was re-established. (See Miami Medical College, *infra.*)

The faculty embraces ten professors, ten assistants to chairs, three lecturers and three demonstrators.

Course of Instruction: The collegiate year embraces a winter and a short spring course. The former, for the session of 1886–87, began September 20, 1886, and will close March 1, 1887. The spring course will begin about the middle of March and continue for six weeks. Clinics at hospital and dispensary, and private courses for advanced students and practitioners on special topics in medicine and surgery.

Lectures embrace ophthalmology, otology, anatomy, clinical surgery, materia medica, therapeutics, clinical medicine, theory and practice of medicine, principles and practice of surgery, obstetrics, diseases of children, gynecology, physiology, medical chemistry, clinical laryngology, pathology, dermatology, histology, hygiene and medical jurisprudence. Daily examinations or quizzes are conducted by the assistants to the respective chairs. No fee is charged for this quiz, and all students are required to attend regularly.

Requirements: For admission—"Applicants for admission to the college must give evidence of at least a good English education, including mathematics and elementary principles of physics. An examination on these subjects, as taught in the common schools, will be conducted by a committee of the faculty. Graduates of a literary or scientific college, high school or academy, gentlemen having a county or State teacher's certificate, graduates in medicine, and students desiring to pursue a special course of study—other than for the purpose of securing a degree—will be exempt from this examination. * * * Students whose previous course of study is equivalent to that required for admission may, by special arrangement, be admitted on certificate of their preceptors."

"The general demand for a good preliminary education of those about to enter our profession is shown by the recent utterances of the American Medical Association and the enactments of several State boards of health. We desire to call special attention to the fact that in several States the diplomas of such schools as do not require an examination preliminary to entrance are not accepted as qualifying for practice."

For graduation: 1) satisfactory evidence of good moral character, and having attained the age of twenty-one years; 2) satisfactory certificate of having studied medicine for at least three years under a *regular* graduate, or licentiate and practitioner of medicine, in good standing, using the word "regular" in the sense commonly understood in the medical profession. "No candidate shall be eligible for final examination for graduation unless his term of three years' study shall have been completed, or shall expire at a date no later than three months after the close of the final examinations;" 3) at least two full courses of instruction; 4) dissections of at least two regions of the body; 5) clinical instruction (hospital) during each year's attendance; 6) a satisfactory examination in each branch taught in the college.

Fees; Professors' tickets, $75; matriculation ticket, $5; dissecting ticket (including material), $10; practical chemistry (including material), $10; practical histology (including material), $10; practical pathology (including material), $10; hospital ticket, $5; graduation fee, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	304	102	33 5
1879-80	326	103	31.6
1881-82	341	101	30.5
1882-83	302	102	33 7
1883-84	257	100	38 8
1884-85	209	58	27.7
1885-86	210	78	37.1

Percentage of graduates to matriculates for past seven years, *thirty-three.*

WORTHINGTON MEDICAL COLLGE—(*Eclectic*).

Medical Department of Ohio University.

WORTHINGTON, O.

ORGANIZED in 1832. Removed to Cincinnati in 1843. Classes were graduated in 1834, 1835, 1836, 1837 and 1838. In 1845 the name was changed, and it became the Eclectic Medical Institute. (*Vide infra.*)

CINCINNATI MEDICAL COLLEGE.

CINCINNATI, O.

ORGANIZED in 1834. Merged into the Medical College of Ohio in 1846.

WILLOUGHBY UNIVERSITY, MEDICAL DEPARTMENT.

WILLOUGHBY, Lake County, O.

ORGANIZED in 1835. Removed to Columbus in 1846, where one course of lectures was given. In 1847 it became extinct by being merged into Starling Medical College, which see.

PHYSIO-MEDICAL COLLEGE.

Cincinnati Literary and Scientific Institute.

CINCINNATI, O.

ORGANIZED in 1836. Graduated classes until 1880.—Extinct.

BOTANICO-MEDICAL COLLEGE OF OHIO.

CINCINNATI, O.

CHARTERED in 1838.—Extinct in 1850.

AMERICAN MEDICAL COLLEGE—(*Eclectic*).

CINCINNATI, O.

ORGANIZED in 1839. Merged into the Eclectic Medical Institute in 1857.

WESTERN RESERVE UNIVERSITY, MEDICAL DEPARTMENT.

Cleveland Medical College, Medical Department of Adelbert College of the Western Reserve University.

CLEVELAND, O. C. B. PARKER, M. D. Secretary, 352 Erie street.

ORGANIZED in 1843 as the Cleveland Medical College, Medical Department of Western Reserve College, by Profs. Ackley, Cassells and Delameter of the Willoughby University, Medical Department; Prof. Kirtland of Cincinnati and Prof. St. John, Chemist of Western Reserve College at Hudson. Reorganized in 1881 by a union of the faculty of the Cleveland Medical College and a majority of the faculty of the Medical Department of Wooster University, as the Medical Department of Western Reserve University. In March 1882 the Board of Trustees of Western Reserve University conferred the ad eundem degree of Doctor of Medicine upon all graduates of the Cleveland Medical College, and upon such graduates of the Wooster Medical Department prior to 1881 as desired it.

The faculty embraces fourteen professors, one lecturer and one demonstrator.

Course of Instruction: The college year embraces a special spring and a regular winter course. The spring term of 1886 opened the first Wednesday in April and continued twelve weeks: the regular winter term opened September 22, 1886, and will close March 3, 1887. The plan of instruction includes lectures, clinics, recitations, quizzes and practical demonstrations. Three-years' graded course recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, state medicine and hygiene, medical jurisprudence, ophthalmology and otology, diseases of children, orthopedic surgery, and osteology.

Requirements: For admission—1) credible certificate of good moral standing; 2) diploma of graduation from a literary and scientific college or high school; or, lacking this, a thorough examination in the branches of a good English education.

For graduation: 1) good English education; 2) twenty-one years of age; 3) three years' study; 4) two full courses of lectures; 5) satisfactory examination to the faculty and board of censors.

Fees: Matriculation, $5; lectures (including hospital), $50; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879-80	86	27	31.4
1881-82	188	83	44.1
1882-83	161	50	31
1883-84	167	54	32.3
1884-85	126	56	44.4
1885-86	119	47	39.4

Percentage of graduates to matriculates for the past six years, *thirty-seven*.

Remarks: The faculty announce that their new college building, the gift of Mr. John L. Woods, of Cleveland, will be ready for occupancy for the opening of the regular term in September, 1886, and that it will be one of the largest and best adapted to its purposes of any in the country.

ECLECTIC MEDICAL INSTITUTE.

Cincinnati, O. John M. Scudder, M. D., 228 Court street.

Organized in 1845 as the successor of the Worthington Medical College (organized in 1832). The American Medical College was merged into this school in 1857, and the Eclectic College of Medicine and Surgery in 1859. The first class was graduated in 1845 and two or more classes have been graduated each subsequent year,

The faculty embraces eight professors and a demonstrator; the professor of pathology and the practice of medicine also lectures upon hygiene, and the professor of surgery lectures upon medical jurisprudence.

Course of Instruction: Two sessions annually. The regular session of 1886-87 commenced September 1, 1886, and continues twenty weeks; the spring session will commence January 15, and close June 1, 1887. A three-years' graded course is recommended, but not required. Clinics at hospital and college.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, clinical medicine, pathology, surgery, obstetrics and gynecology, hygiene and medical jurisprudence.

Requirements: For admission—1) credible certificate of good moral character; 2) diploma of graduation from a good literary and scientific college, or high school, or a first-grade teacher's certificate; lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition and elementary physics or natural philosophy.

For graduation: "Students applying for graduation must have read medicine for three years and attended two full courses of lectures in different years, the last of which has been in this institution; or have read two years and attended three courses of lectures; or have attended four courses of lectures without previous reading. Examinations for the degree of Doctor of Medicine will be held at the close of both winter and spring sessions, but there will be but one public commencement yearly—at the close of the spring session, and all diplomas will bear date of the first Tuesday in June."

Fees: Lectures, including matriculation and demonstrator's fees, $75; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	267	121	45.3
1878-79	209	74	35.4
1879-80	243	50	20.5
1880-81	316	114	36+
1881-82	272	100	36.7
1882-83	225	64	28.4
1883-84	190	83	43.6
1884-85	169	69	40.8
1885-86	161	58	36+

Percentage of graduates to matriculates for past nine years, *thirty-five*.

STARLING MEDICAL COLLEGE.

Columbus, O. T. C. Hoover, M. D., Registrar, 229 East State street.

Organized in 1847. The Medical Department of Willoughby University was merged into it the same year. The first class was graduated in 1848. Classes have been graduated in each subsequent year.

The faculty embraces eleven professors, one lecturer and one demonstrator.

Course of Instruction: The regular session of 1886-87 began September 15, 1886, and closes March 10, 1887. A three-years' graded course is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence, diseases of children, venereal diseases, ophthalmology and otology, toxicology, histology, and hygiene.

Requirements: For admission—"Applicants for admission into the college must give satisfactory evidence of having, at least, a fair English education."

For graduation, 1) twenty-one years of age, and certificate of good moral character; 2) three years' study; 3) two full courses; 4) successful examination; 5) thesis; 6) one course of dissection.

Fees: Matriculation, $5; demonstrator, $5; lectures, $50; laboratory, $5; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	65	26	40
1878-79	48	20	41.8
1879-80	71	26	36.6
1880-81	99	35	35.3
1881-82	116	55	45.7
1882-83	59	25	40.7
1883-84	71	25	35.2
1884-85	85	30	35.2
1885-86	78*	28	35.9

Percentage of graduates to matriculates for the past nine years, *thirty-nine*.

*Not including one graduate who matriculated.

HOMEOPATHIC HOSPITAL COLLEGE.

Cleveland, O. G. J. Jones, M. D., Registrar, 91 Public Square.

Organized in 1849, as the Western College of Homeopathic Medicine. In 1857 the name was changed to the Western Homeopathic College, and in 1870 the corporation assumed the present title. In 1870 the Homeopathic College for Women was merged into this institution. The first class was graduated in 1853. Classes have been graduated in each subsequent year.

The faculty embraces thirteen professors, one adjunct professor, two lecturers and one demonstrator.

Course of Instruction: The regular annual term of 1886-87 began September 29, 1886, and closes March 25, 1887. A three-years' graded course is recommended, but not required. Previous to each lecture the class will be daily questioned upon the subjects of the preceding lecture.

Lectures embrace anatomy, physiology, chemistry, materia medica, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence, hygiene and sanitary science, ophthalmology and otology, microscopy and histology, nervous and mental diseases, and diseases of women.

Requirements: For admission—"All applicants must present a degree in letters or science, a diploma from a high school or academy, or a teacher's certificate, or pass a creditable examination in orthography, penmanship, composition, arithmetic, English grammar and United States history."

For graduation; 1) twenty-one years of age; 2) two full courses of lectures; 3) three years' study; 4) good English scholarship; 5) well sustained written examinations.

Fees: Matriculation (paid once only), $5; lectures, $60; demonstrator, $10; hospital, $5; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	106	34	32
1878-79	108	25	23+
1879-80	130	25	19.2
1880-81	131	26	19.8
1881-82	129	26	20+
1882-83	131	65	50.9
1883-84	91	40	43.9
1884-85	84	30	35.7
1885-86	82*	26	31.7

Percentage of graduates to matriculates for the past nine years, *twenty-nine*.

*Not including three graduates who matriculated.

CINCINNATI COLLEGE OF MEDICINE AND SURGERY.

Cincinnati, O. J. H. Hazard, M. D., Secretary, 53 Lawrence street.

Organized in 1849. The first class was graduated in 1852, and one or more classes have been graduated each subsequent year.

The faculty embraces ten professors and one demonstrator, with four professors and four adjunct professors of special departments.

Course of Instruction: The regular graduating session of 1886-87 began September 13, 1886, and closes the latter part of February, 1887. Students may if they desire have their course of instruction graded.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, ophthalmology and otology, laryngology, oral surgery and diseases of children.

Requirements: For admission—"Students applying for admission must present satisfactory evidences, by examination, diploma or teacher's certificate, of an adequate English education. Students having attended one or more courses of lectures in some other regular medical college, will be admitted on presentation of tickets to this effect."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) three years' study; 5) satisfactory examination; 6) practical anatomy for one session; 7) hospital clinics for one session.

Fees: Matriculation, $5; demonstrator (including material), $10; hospital, $5; chemical laboratory, $5; lectures, $40; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1876-77	137	68	50—
1877-78	80	32	40
1878-79	—	26	——
1879-80	66	27	40.9
1880-81	93	30	32.2
1881-82	35	15	42.8
1882-83	46	15	34.7
1883-84	—	14	——
1884-85	53	25	47.1
1885-86	36	17	47.2

Percentage of graduates to matriculates for eight years, reported in full, *forty-one*.

MIAMI MEDICAL COLLEGE.

Cincinnati, O. Wm. H. Taylor, M. D., Dean, 329 West Seventh street.

Organized in 1852. Classes were graduated from 1853 to 1857, inclusive. In 1858 this college was merged into the Medical College of Ohio—which see, *ante*. In 1865 the Miami Medical College was re-established and a class was graduated in 1866, since which time classes have been graduated annually.

The faculty embraces eleven professors, three lecturers, five assistants to chairs, three demonstrators and one pharmacist.

Course of Instruction: The winter session of 1886-87 began September 21, 1886, and continues for five and a half months. A three-years' graded course recommended but not required—see "Remarks" appended. Special hours are devoted by each professor to review examinations of his preceding lectures. Clinics at dispensary and hospital.

Lectures embrace (by chairs) clinical medicine, principles and practice of surgery, ophthalmology, aural surgery and clinical ophthalmology, obstetrics and clinical midwifery, principles and practice of medicine and clinical medicine, materia medica and therapeutics, diseases of women and children and clinical gynecology, chemistry and toxicology, clinical surgery, physiology, clinical larnygology and hygiene, descriptive and surgical anatomy, and clinical medicine.

Requirements: For admission—"The student must give evidence of educational qualification in the form of a diploma from a college or high school, or a teacher's certificate. In the absence of any of these he must submit to an examination by a committee of the faculty.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; one course 5) of practical anatomy, 6) of practical chemistry, and 7) of clinics at the hospital; 8) full and satisfactory examination on each branch taught in the college.

Fees: Matriculation, $5; demonstrator, $5; practical chemistry, $7; practical physiology and histology, $7; lectures, $75; graduation, $25; hospital, $5.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	129	50	38.7
1878-79	120	33	27.5
1879-80	147	48	32.7
1880-81	126	34	27—
1881-82	124	41	33+
1882-83	114	41	36—
1883-84	104	28	26.9
1884 85	104	27	25.9
1885-86	100	37	37

Percentage of graduates to matriculates for the past nine years, *thirty-one*.

Remarks: The system of instruction is so arranged as to give the student his choice of two courses: one of these is the course commonly given in other medical colleges, and consists of two courses of didactic and clinical lectures, including laboratory instruction and dissections. The other course is designated the "Graded Course," and is based upon the fact that a regular systematic graded course is the proper one for acquiring a knowledge of any of the sciences, and a number of years' experience in this school has fully demonstrated that the "Graded Course" is, in every respect, much the better one of the two, and is urged upon the students by the faculty, as it allows ample time for thorough and practical work in all departments, while the evils of the cramming system are avoided. —*Extract from the Twenty-seventh annual Announcement.*

ECLECTIC COLLEGE OF MEDICINE AND SURGERY.

Cincinnati, O.

Organized in 1856. Classes were graduated in 1857, 1858 and 1859.—Merged into the Eclectic Medical Institute in 1859.

PHYSIO-MEDICAL INSTITUTE.

Cincinnati, O.

Organized in 1859.—Extinct, 1885.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF WOOSTER.

CLEVELAND, O. ALVIN EYER, Secretary of the Faculty, 19 Euclid avenue.

ORGANIZED in 1863, asthe Charity Hospital Medical College. It was transferred to its present connection in 1870. The first class was graduated in 1865. One or more classes have been graduated in each subsequent year, excepting 1881.

The faculty embraces thirteen professors, five assistants to chairs, and one demonstrator.

COURSE OF INSTRUCTION: The faculty have changed their calendar to the "one session a year" plan. A recitation term, consisting of twelve weeks, commenced October 1, 1886. The summer or graduating session will commence March 1, 1887, and continue twenty-one weeks. Five recitations are held each week by professors to review their lectures.

Lectures embrace anatomy, physiology and histology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, dermatology, diseases of children, ophthalmology and otology, pathology and microscopy.

REQUIREMENTS: For admission—"Applicants for admission to this school are required to give evidence of possessing a good English education, and a certificate of good moral character."

"An examining committee has been appointed in order to comply with the requirements of the laws of the various States, and State boards of health, demanding a preliminary examination before admission to medical lectures. Students possessing academical degrees, or who have graduated at high schools, or who have received a teacher's certificate, will do well to bring evidence of that fact with them."

For graduation: 1) twenty-one years of age; 2) three years' study; 3) complete dissections of the human body during his two courses; 4) two full courses of lectures; 5) satisfactory written examinations on all branches taught. "Candidates [for graduation] having no registration in this college must furnish the following: 1) a certificate of character and prior educational attainments; 2) a certificate of time of study with the date of beginning; and 3) certificates showing what lectures—if any—they have attended, and with whom, and to what extent they have studied practical anatomy."

FEES: Matriculation, $5; general ticket, including hospital and demonstrator's ticket, $50; graduation, $30; ticket in full for recitation term, $10.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1878	83	24	29—
1879	89	37	41.5
1880	88	38	43+
1881	106	37	35—
1882	33	14	42.4
1883	57	17	21+
1884	46	16	34.7
1885	37	23	62.1
1886	43	17	39.5

Percentage of graduates to matriculates for past nine years. *thirty-eight.*

PULTE MEDICAL COLLEGE—(*Homeopathic.*)

CINCINNATI, O. J. M. CRAWFORD, M. D., Registrar, 136 W. Eighth street.

ORGANIZED in 1872. The first class was graduated in 1873. Classes have been graduated in each subsequent year.

The faculty embraces thirteen professors and one demonstrator.

COURSE OF INSTRUCTION: The session of 1886-87 began September 29, 1886, and closes March 2, 1887. A three-years' graded course is recommended, but not required. Clinics at hospital and dispensary; quizzes by professors and students' society.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, ophthalmology and otology, diseases of nervous system, pedology, medical jurisprudence, pharmacology, hygiene and sanitary science, and genito-urinary diseases.

REQUIREMENTS: For admission—"An entrance examination will be held preliminary to matriculation, covering the common English branches. Any student presenting a college or high school diploma, or a certificate of admission to any literary college, or a teacher's certificate, will be exempt from this examination."

For examination: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) three years' study; 5) thorough examination on all subjects taught in the school; 6) dissection of two parts.

Fees: Matriculation (paid but once), $5; lectures, $50; hospital, $5; demonstrator, $10; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	—	44	——
1878-79	—	29	——
1879-80	—	22	——
1880-81	88	41	46.6
1881-82	79	34	43+
1882-83	66	31	47
1883-84	65	16	24.6
1884-85	52	30	57.7
1885-86	55	16	29+

Percentage of graduates to matriculates for past six years, *forty-one*.

AMERICAN HEALTH COLLEGE.

Cincinnati, O.

Organized in 1874-'6. The faculty embraces one person, who teaches "the great vitapathic system, which he originated and copyrighted." The following is extracted from the author's "little red book:"

"The author furnishes books, printed lessons, formulas, receipts, specifics, and special modes of vital treatment for all diseases, with the sure method of diagnosis, and all lessons belonging to the vitapathic system, with diploma and full right to practice, to physicians of all schools and all well qualified persons, who can learn the new system at home. Males, for $100. Females, for $75. Male students who need verbal lessons and full college course, with all the above, $150. Female students (the same), $100

"N. B.—Students can get general medical instruction wherever most convenient, but best at our branches in the different cities of the Union, preparatory to applying here for vitapathy and its higher graduation, with the grand diploma of the American Health College, the highest institution in the world.

"College open for instruction and graduation at all times. Terms cash. No diploma, or books, or lessons, or rights, sold separate. All must go together to complete the system to fully paid-up students."

The possessor of one of these diplomas was recently arrested in Illinois for practicing without the certificate prescribed by law—the State Board of Health having refused to issue such certificate on the diploma. On trial the man was found guilty and left the State.

The following is taken from the Chicago *Tribune* of July 22, 1886:

"Troy, N. Y., July 21.—Mrs. Hoyt some time ago obtained a diploma from the American Health College of Cincinnati, claiming to be incorporated under the laws of Ohio, authorizing her to practice the vitapathic system of medicine, and conferring power to solemnize marriages, preach the gospel, and perform all other duties as a minister. She has married two couples, in one case the parties being a Boston spiritualist, a medium named Donnelly, and a seventeen-year-old girl. Mrs. Hoyt's cousin, who was divorced from her first husband, was the principal in the other marriage, and Mrs. Hoyt says she was graduated from the college after attending it eight weeks and has a certificate from the institution proclaiming that she has been ordained a minister of the gospel for life."

COLUMBUS MEDICAL COLLEGE.

Columbus, O. J. M. Dunham, A. M., M. D., Secretary, 198 East Town street.

Organized in 1875. The first class was graduated in 1876. Classes have been graduated each subsequent year.

The faculty embraces eleven professors, four lecturers, one demonstrator of anatomy and one demonstrator of chemistry.

Course of Instruction: The session of 1886-87 began September 15, 1886, and closes March 15, 1887. Instruction consists of didactic and clinical lectures, with daily quizzes.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, ophthalmology, otology, histology and diseases of children and toxicology.

Requirements: For admission—"Holders of degrees in the arts and science, those who have successfully made the entrance examination to any college, graduates of high schools and normal schools, and those who hold certificates for one year to teach in the public schools of Ohio, or their equivalent, will be admitted on these testimonials. All others must exhibit evidences of the possession of a good English education."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two courses of lectures; 4) three years' study; 5) complete dissection of the human body; 6) thesis; 7) satisfactory examination.

FEES: Matriculation (each term), $5; lectures, first course, $40; second course, $40; third course, $20; demonstrator, $5; demonstrator of chemistry, $5; graduation, $25,

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	118	51	42+
1878-79	144	50	34.7
1879-80	126	41	32.5
1880-81	142	61	42+
1881-82	131	59	45+
1882-83	123	46	37+
1883-84	77	30	38.9
1884-85	51	18	35.2
1885-86	51	19	37.2

Percentage of graduates to matriculates the past nine years, *thirty-nine*.

The faculty announce the completion of the "Hawkes Hospital," the gift to the College from Dr. W. B. Hawkes, one of its trustees. The faculty of the college constitute the medical and surgical staff. It is expected to be open for clinical instruction at the beginning of the fall term.

PHYSIO-ECLECTIC MEDICAL COLLEGE.

CINCINNATI, O,

ORGANIZED in 1876.—Extinct. A fraudulent institution, engaged in the sale of diplomas. In 1879 the name was changed to the American Eclectic Medical College, and a new charter was obtained, but the same practices were continued under the new title.

ZANESVILLE ACADEMY OF MEDICINE.

ZANESVILLE, O.

ORGANIZED in 1877. Under the laws of Ohio the Academy had authority to examine candidates who wished to practice medicine, and if found qualified issue certificates to that effect. This right was exercised in six or seven instances after a written and oral examination. Owing to internal dissentions the Academy was closed by order of Court in 1881.

TOLEDO SCHOOL OF MEDICINE.

TOLEDO, O.

ORGANIZED in 1878, as a school of instruction only, and did not confer degrees. It held three sessions and was then suspended. See Northwestern Ohio Medical College.

AMERICAN ECLECTIC MEDICAL COLLEGE.

CINCINNATI, O. B. K. MALTBY, M. D., Dean, 192-194 W. Fifth street.

ORGANIZED in 1883. The faculty embraces eleven professors.

COURSE OF INSTRUCTION: A preliminary session of four weeks, which may be attended free of cost, in acquiring or reviewing branches that are to come into the preliminary examination, i. e., the usual English branches with critical exercises in syntax, English composition, etc., and technical terms in Latin and Greek, with style and language of prescriptions. One annual graduating session; that for 1886-87 opened October 6, 1886, and will close February 23, 1887. There is a post-graduate session occupying eight weeks, February 24 to April 21, 1887.

Lectures embrace anatomy, physiology, pathology, histology and microscopy, materia medica, principles and practice of medicine, surgery, obstetrics, gynecology, chemistry, toxicology, therapeutics, clinical medicine, electro-therapeutics, dermatology, sanitary science and medical jurisprudence.

Requirements: For admission—In the absence of collegiate or high school graduation certificates, applicants will be required to pass an examination on the usual branches of an English education, including elementary mathematics, natural science, English composition and so much of Latin and Greek as will be required to understand medical terms and the writing of prescriptions.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years of previous medical study; 4) two full courses of medical lectures in separate years, the last to have been in this college; 5) two dissecting courses under a demonstrator, and a final examination covering the whole course of studies in this college.

Fees: Matriculation; $5; lectures, each session, $60; Cincinnati Hospital fee, $5; demonstrator, each session, $5; dissecting material, each session, $5; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	13	6	46+
1884-85	24	9	37.5
1885-86	*28	11	39.2

Percentage of graduates to matriculates for past three years, *forty*.

*Not including two graduates who matriculated and upon whom the ad eundem degree was conferred.

TOLEDO MEDICAL COLLEGE.

Toledo, O. Jonathan Priest, M. D., Secretary, 168 Adams street

Organized in 1883. The first class was graduated in 1883.

The faculty embraces ten professors, three lecturers and one demonstrator.

Course of Instruction: The regular session of 1886-87 began September 22, 1886, and closes March 9, 1887. A three-years' graded course is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology and otology, toxicology, diseases of children, histology and pathology, and pharmacy.

Requirements: For admission—"Students before being admitted to the class, must present a diploma from some literary and scientific college, or high school, or a first grade teacher's certificate, or in lieu thereof pass an examination before the executive committee of the faculty, on the branches of a good English education, including mathematics, English composition and natural philosophy."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years study; 4) two full courses of lectures; 5) a complete dissection of the body; 6) thesis; 7) satisfactory examination on all branches taught.

Fees: Matriculation, $5; lectures, $40; demonstrator, $10; practical chemistry, $5; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883	19	7	36.8
1883-84	33	14	42.4
1884-85	38	13	34.2
1885-86	*33	10	30.3

Percentage of graduates to matriculates for the past four years, *thirty-five*.

*Not including one graduate who matriculated.

NORTHWESTERN OHIO MEDICAL COLLEGE.

Toledo, Ohio. C. A. Kirkley, M. D., Secretary, Jefferson and Eleventh streets.

Organized in 1883. This college is an outgrowth of the Toledo School of Medicine, which see *ante*.

The faculty embraces fourteen professors, one lecturer and one demonstrator.

Course of Instruction: The session of 1886-87 began September 15, 1886, and will continue six months. Didactic lectures, clinical instruction in hospital and dispensary.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, principles and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene and state medicine, medical jurisprudence, ophthalmology and otology, diseases of children, diseases of the mind and nervous system, laryngology, and orthopedic surgery.

Requirements: For admission—"Students desiring to attend the lectures of this college must furnish: 1) satisfactory certificates of good moral character; 2) diploma of graduation from a literary and scientific college or high school, or, in absence of this, 3) must pass a satisfactory examination in the branches necessary to a good English education, including mathematics, English composition and elementary physics or natural philosophy."

For graduation: 1) good moral character; 2) three years' study; 3) twenty-one years of age; 4) two full courses of dissection; 5) two full courses of lectures; 6) attendance during at least two terms of clinical and hospital instruction; 7) must pass a satisfactory examination on all branches, to be conducted, when practicable, by other competent examiners than the professors in each branch; 8) regular attendance during the entire lecture courses, allowance being made only for absence occasioned by the student's sickness, such absences not to exceed twenty per cent. of the course; 9) attendance upon regular examination, or quizzes made by each professor, daily or at least twice each week; 10) thesis.

Fees: Matriculation, $5; demonstrator, $5; lectures, $40; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1883-84	11	1	9+
1884-85	14	4	28.5
1885-86	23	2	8.7

Percentage of graduates to matriculates for the past three years, *fourteen*.

OREGON.

MEDICAL DEPARTMENT, WILLAMETTE UNIVERSITY.

Portland, Or. E. P. Fraser, M. D., Dean of the Faculty.

Organized in 1864, and located at Salem. It was removed to Portland in 1878. The first class was graduated in 1867. Classes have been graduated in each subsequent year.

The faculty embraces sixteen professors and one demonstrator.

Course of Instruction: The session of 1886-87 began October 12, 1886, and will continue six months. A three-years' graded course is advised, but not required. Instruction imparted by didactic and clinical lectures, practical work in dissecting room, chemical and physiological laboratories, and by daily quizzes upon the subjects of the preceding lectures.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, principles and practice of medicine, pathology, surgery, obstetrics and gynecology, diseases of women and children, medical jurisprudence, diseases of the mind and nervous system, hygiene, ophthalmology and otology, microscopy and psychological medicine.

Requirements: For admission—1) credible certificate of good moral character; 2) diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate; or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy. Women admitted on the same terms, with the same advantages as men.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) must have been engaged in the study of medicine at least three years, and attended two full courses of lectures; 4) must have attended hospital clinics and dissections as long as he was a student thereof; 5) thesis; 6) successful examination as to professional attainments.

Fees: Matriculation, $5; demonstrator, $10; lectures, $120; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	25	7	28
1878-79	32	8	25
1879-80	27	6	22+
1880-81	31	13	42—
1881-82	29	9	33 3
1882-83	28	10	36—
1883-84	24	10	41 6
1884-85	23	8	34 8
1885-86	20	7	35

Percentage of graduates to matriculates for past nine years, *thirty-two.*

REMARKS: The faculty announce that through the generosity of the citizens of Portland and vicinity, they have been enabled to erect a new college building, which will be ready for occupancy soon after the opening of the regular session. It will be provided with an amphitheater capable of seating 200 students, clinical lecture room, chemical laboratory and dissecting room, college museum, etc., and supplied with every modern convenience completely adapted to medical teaching.

PENNSYLVANIA.

UNIVERSITY OF PENNSYLVANIA, DEPARTMENT OF MEDICINE.

PHILADELPHIA, Pa. JAMES TYSON, M. D., Secretary, Thirty-sixth street and Woodland avenue.

ORGANIZED in 1765 as the Department of Medicine of the College of Philadelphia, the sixth in the order of succession of American colleges, being chartered chiefly through the influence of Dr. BENJAMIN FRANKLIN and Dr. WILLIAM SMITH. The first medical diploma issued in America was granted to Dr. JOHN ARCHER, in 1768, by this department, then known as the College of Medicine in Philadelphia. On the organization of the University of Pennsylvania, in 1782, the college assumed its present title and relations, the successor of the College of Philadelphia. Classes have been graduated each year since 1768, except in 1772 to 1779, inclusive, during the War of Independence.

The faculty embraces eighteen professors, one assistant professor, two auxiliary professors, twenty-one demonstrators, five lecturers, thirteen instructors and a prosector of anatomy.

COURSE OF INSTRUCTION: Sessions of 1886-87—The spring session began May 10, and ended about the middle of June, 1886; the preliminary session began September 15, 1886, and ended September 30, and the winter session began October 1, 1886, and ends May 3, 1887. Attendance upon three winter sessions is obligatory. The course is graded and extends over three years. A four-years' graded course is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology and morbid anatomy, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology and otology. This enumeration is to be understood as including the collatoral studies and special branches of the general subjects.

REQUIREMENTS: For admission—A collegiate degree, or a certificate of having passed the matriculation examination of a recognized college; or a certificate, covering the required subjects, from a recognized normal or high school, or from a duly organized county medical society that has instituted a preliminary examination; or a preliminary examination embracing first, a brief essay, not exceeding a page of foolscap, which will serve as a test of qualifications in orthography and grammar; second, an examination in the elementary principles of physics, on the subjects considered, in Part I of Townes' Chemistry.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) three full courses of lectures; 5) satisfactory examinations.

Students who have attended one course in a regular medical school are admitted as students of the second course in the University of Pennsylvania, after having passed a satisfactory examination in general chemistry and materia medica and pharmacy, and the elements of general pathology. Students who have attended two courses in a regular medical school will be admitted as students of the third course in this institution, after having satisfactorily passed an examination in general and medical chemistry, materia medica and pharmacy, anatomy and physiology, and the elements of general pathology. Graduates of other regular medical schools in good standing will be admitted as students of the third class without examination. Graduates of colleges of pharmacy and dental colleges in good standing are admitted to the second course on passing the admission examination only.

Fees: Matriculation, $5; lectures, including laboratory and dissection, for each year, $150.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	375	127	33.8
1878-79	343	91	26.5
1879-80	377	116	30.7
1880-81	374	115	30.7
1881-82	363	122	33.6
1882-83	367	104	28.3
1883-84	367	103	28+
1884-85	370	108	29.1
1885-86	*381	118	30.9

Percentage of graduates to matriculates for past nine years, *thirty*.

*Not including five graduates who matriculated.

Remarks: During the first and second years, much of the student's time is occupied with practical work in the various laboratories of chemistry, pharmacy, osteology, histology and pathological histology, and in dissection; but throughout the second and third sessions he is required to attend the general medical and surgical clinics of the University and Philadelphia hospitals, while special clinical facilities are provided for the third year. In this year each student receives bedside instruction in clinical medicine and surgery, in physical diagnosis, and in gynecology. Opportunities are afforded for the practical study of diseases of the eye, ear, throat and skin, and for acquiring proficiency in the use of the various instruments employed in their treatment. For this purpose the third year class is divided into sections of convenient size, each of which receives direct personal instruction in the various practical subjects above mentioned. Advanced students may make original researches in the laboratories of pharmacy, chemistry, physiology, pathology, and experimental therapeutics.

JEFFERSON MEDICAL COLLEGE.

Philadelphia, Pa. Roberts Bartholow, M. D., LL. D., Dean, 1527 Locust street.

Chartered in 1826 as the Medical Department of the Jefferson College at Cannonsburg, Pa. The first class was graduated in 1826. Classes have been graduated in each subsequent year.

The faculty embraces eight professors, one honorary professor, one lecturer, eleven demonstrators and eleven assistant demonstrators.

Course of Instruction: Session 1886-87—A preliminary fall session began September 20, and continued until the opening of the winter session; the regular winter session commenced October 1, 1886, and ends the last of March, 1887; the spring session begins early in April and ends the last day of May, 1887. Daily clinics at hospital and dispensaries. A three-years' graded course, for which provision is made, is recommended, but not required.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology, otology, diseases of children, dermatology, toxicology, histology, genito-urinary diseases, pharmacy.

Requirements: For admission—"Some of the States have recently enacted laws, by the requirements of which students not provided with literary degrees, or other certificates of scholarship necessary to the study of medicine, must undergo an examination before a State board in the subjects of such preliminary study, as a prerequisite for a license to practice medicine within their borders. That the graduates of this college may be spared the trouble incident to compliance with these regulations, all students intending to engage in practice in those States will have the opportunity of undergoing such an examination before a committee of the faculty, and will receive a certificate therefor. The examination will include all branches requisite to a good English education, comprising mathematics, composition and elementary physics."

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) three years' study. Students of dental colleges where a five months' winter session is held, and where full courses are given on anatomy, materia medica, physiology and chemistry, may become candidates, after attendance on two courses at such colleges, and one full course at the Jefferson Medical College, with another on surgery, practice of medicine and obstetrics. Students of colleges of pharmacy where full courses are given on materia medica and chemistry, may become candidates, after attendance on two courses at such colleges, and one full course at the Jefferson Medical College, with another on anatomy, surgery, practice of medicine, physiology and obstetrics.

Fees: Matriculation (paid but once), $5; lectures, $140; demonstrator (of anatomy), $10; all other practical courses free; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	598	203	33.9
1878-79	572	196	34.2
1879-80	572	196	34.2
1880-81	609	205	33.6
1881-82	630	247	39.2
1882-83	569	227	39.8
1883-84	645	215	33.3
1884-85	493	176	35.7
1885-86	531	223	42

Percentage of graduates to matriculates for past nine years, *thirty-six*.

Names of matriculates not given in announcement.

PENNSYLVANIA MEDICAL COLLEGE.

Philadelphia, Pa.

Organized in 1839 as the Medical Department of the Pennsylvania College, at Gettysburg, by Dr. George McClellan. In 1859 it merged with the Philadelphia College of Medicine and Surgery, the faculty of the latter becoming the faculty of the former under the name of the former. It closed in 1861 on account of the confused state of the country, and the desire of many of the professors to enter the medical staff of the army.

PHILADELPHIA COLLEGE OF MEDICINE AND SURGERY.

Philadelphia, Pa.

Organized in 1846, by Dr. James R. McClintock, and in 1859 it was merged into the Pennsylvania Medical College.

FRANKLIN MEDICAL COLLEGE.

Philadelphia, Pa.

Organized in 1847.—Extinct in 1852.

HOMEOPATHIC MEDICAL COLLEGE.

Philadelphia, Pa.

Organized in 1848. On April 2, 1869, the faculty of this institution united with the faculty of the Hahnemann Medical College of Philadelphia, under the latter title.

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL—

(*Homeopathic.*)

Philadelphia, Pa. A. R. Thomas, M. D., Dean, 1733 Chestnut street.

Organized in 1848. The first class was graduated in 1849. Classes have been graduated each subsequent year.

The faculty embraces nine professors, six lecturers and seven demonstrators.

Course of Instruction: The session of 1886-87 embraces a preliminary course of one week's duration, which precedes the regular winter course. The latter began the last Monday in September, 1886, and continues until the last of March, 1887. A spring course begins on the Monday following commencement and continues until the end of May. A three-years' graded course obligatory. Clinics at hospital and dispensary. "Quizzes, demonstrations, experiments and other practical exercises will be called into requisition as aids in the work of imparting instruction."

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, institutes of homeopathy, microscopy and histology, botany and pharmacy, ophthalmology and otology, diseases of children, history of medicine and insanity.

Requirements: For admission—"Each student will be required to present a preceptor's certificate that he possesses a good moral character, and that he is otherwise qualified for the study of medicine. He must give evidence of a good education, and pass a satisfactory examination in elementary mathematics, composition and elementary physics or natural philosophy. Candidates exhibiting the diploma of a literary or scientific college or high school, or a county or State teacher's certificate, or the certificate of an examining board of any accredited medical society, will be admitted without examination.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) three full courses of lectures; 5) at least one course of practical anatomy and surgery. A student who has attended one or more courses in a medical college in which homeopathy is not taught, must attend one full session of instruction in this institution, and in addition to the general average required for admission, he must obtain a two-thirds average in the following departments: Homeopathic institutes and materia medica, practice of medicine and clinical medicine.

Fees: Matriculation, $5; lectures, $100 per year; practical courses free; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	161	52	32.1
1878-79	162	61	37.6
1879-80	192	75	39
1880-81	208	83	39.9
1881-82	148	57	38.5
1882-83	147	52	35.4
1883-84	138	41	29.7
1884-85	144	48	33.3
1885-86	*148	58	39.1

Percentage of graduates to matriculates, for past nine years, *thirty-six*.

*Not including thirteen graduates who matriculated.

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.

Philadelphia, Pa.: Rachel L. Bodley, M. D., Dean, North College avenue and Twenty-first street.

Organized in 1850. The first class was graduated in 1851. Classes have been graduated in each subsequent year.

The faculty embraces ten professors, seven lecturers, three instructors and five demonstrators, one assistant demonstrator, a curator of museum and prosector.

Course of Instruction: The regular winter term of the session of 1886-87 began October 7, 1886, and closes March 17, 1887. The spring term will begin March 21, 1887, and close May 27. A three-years' graded course is required for graduation, and a four years' course is earnestly recommended. Weekly examinations on each subject, as presented in the lectures. The spring term is devoted mainly to laboratory work, to demonstrative and clinical teaching.

Lectures embrace anatomy, physiology, chemistry and toxicology, materia medica and therapeutics, principles and practice of medicine, pathology, principles and practice of surgery, obstetrics, gynecology and diseases of women and children, hygiene, medical jurisprudence, histology and microscopy, laryngoscopy and rhinoscopy, dermatology, otology and ophthalmology.

Requirements; For admission, none.

For graduation: 1) twenty-one years of age; 2) three years' study; 3) three winter courses, including, at the least, two full courses of lectures on each of the following subjects—chemistry and toxicology, anatomy, physiology and hygiene, materia medica and general therapeutics, principles and practice of medicine, principles and practice of surgery, obstetrics and gynecology and diseases of children, and one course of lectures on histology and pathology, two courses in practical anatomy, having made creditable dissection of each part of the cadaver; one course in the chemical, the physiological, the histological, the pharmaceutical, and the pathological laboratories; one course in operative and minor surgery, including bandaging and fracture dressings, and in microscopy: and satisfactory evidence of having attended two courses of clinical instruction each, in medicine, surgery, obstetrics and gynecology; 4) good moral character and mental fitness for the profession; 5) thesis; 6) satisfactory examinations.

Fees: Matriculation (paid only once), $5; lectures, $105; demonstrator, $10; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates	Percent.
1877–78	130	17	13+
1878–79	144	20	13.8
1879–80	146	13	8.9
1880–81	170	20	11.7
1881–82	111	19	17+
1882–83	125	35	28
1883–84	134	26	19.5
1884–85	126	23	18.2
1885–86	142	33	23.2

Percentage of graduates to matriculates for past nine years, *sixteen*.

ECLECTIC MEDICAL COLLEGE OF PENNSYLVANIA.

Philadelphia, Pa.

Incorporated in 1856.—Extinct. After being in operation a few years, this institution passed into the hands of Buchanan and his colleagues, and became fraudulent. The sale of diplomas was stopped by legal process and the arrest of Buchanan in 1880.

PHILADELPHIA UNIVERSITY OF MEDICINE AND SURGERY—(*Eclectic.*)

Philadelphia, Pa.

Incorporated in 1859. Fraudulent. The sale of diplomas was stopped by legal process and the arrest of Miller and others in 1880.

AMERICAN UNIVERSITY OF PENNSYLVANIA—(*Eclectic.*)

Philadelphia, Pa.

Incorporated in 1867. Fraudulent —Extinct. The sale of diplomas was stopped by legal process and the arrest of Buchanan in 1880.

LINCOLN UNIVERSITY, MEDICAL DEPARTMENT.

Oxford, Pa.

Organized in 1870.—Extinct, 1872.

PENN MEDICAL UNIVERSITY.

Philadelphia, Pa.

Chartered February 2, 1853. Lectures were delivered until 1867. Reorganized in 1874.—Extinct, 1881.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

Philadelphia, Pa. Peter D. Keyser, A. M., M. D., Dean, 1630 Arch street.

Organized in 1881. The first class was graduated in 1882.

The faculty embraces twelve professors, one adjunct professor, and ten instructors, demonstrators and chiefs of clinics.

Course of Instruction. The session of 1886-87 began the first Monday in April, with a spring course lasting three months, a preliminary course to the regular winter session of one month, beginning the first Monday in September, and the regular winter session of six months, beginning the first Monday in October, 1886. A three-years' graded course is required to complete the curriculum. Daily quizzes by the professors.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics, gynecology, hygiene, medical jurisprudence, ophthalmology and otology, orthopedic surgery. laryngology, nervous diseases, pharmacy, diseases of children, dermatology. Clinics at hospital, and full facilities for laboratory work afforded.

Requirements: For admission—"A degree in arts, philosophy or science; or a certificate of examination and graduation from an academy, high or normal school which does not confer degrees; or a certificate of having passed a preliminary examination of a duly organized county medical society, as ordered by the action of the Pennsylvania State Medical Society; or, finally, a successful examination before the faculty in orthography, English composition (written as ordered at the time and place of examination), arithmetic, geography, history, English grammar, elementary physics, Latin grammar and translations. The medical course comprises three years of study, while four is urgently advised to meet the necessary advancement in the science. Students are admitted to the second year's course on furnishing the proper evidence of preliminary qualifications and of one year's study of medicine, and by sustaining satisfactory examinations in the studies of the first year; admission may be gained to the third year's course by furnishing the evidence of preliminary qualifications and of two years' study of medicine, one year of which shall have been attendance on one full course of instruction in a recognized regular medical college, and by sustaining satisfactory examinations in the studies of the first and second years."

For graduation: 1) "A written and oral examination on all the branches of medical and surgical science; 2) a clinical examination in medicine, surgery and ophthalmology conducted at the bedside, cases being submitted for diagnosis and treatment in the clinic rooms and wards of the hospital; 3) thesis; 4) three full courses of lectures."

Fees: Matriculation (paid but once), $5; course ticket for all lectures, yearly, $100; when tickets are paid in full for first and second years the third year is given free; demonstrator's ticket, $10; graduation fee (including diploma and commencement expenses), $30 Graduates in dentistry and pharmacy, matriculation fee and $60 first year, and $100 second year for all lecture tickets.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session	Matriculates.	Graduates.	Percent.
1881-82	31	3	9.6
1882-83	27	10	37
1883-84	23	4	17.3
1884-85	33	5	15.1
1885-86	26	5	19.2

Percentage of graduates to matriculates for past five years, *nineteen*.

Names of matriculates and graduates not given in announcement.

Remarks: The trustees and faculty announce that they will shortly be enabled to offer greatly increased facilities and improved accommodations to students in the purchase of a new college property which will be occupied by the college and hospital. The arrangements will be of modern and superior kind, and all departments will be furnished with every needed appliance.

WESTERN PENNSYLVANIA MEDICAL COLLEGE.

Pittsburg, Pa. W. J. Asdale, M. D., Secretary, 2107 Penn avenue.

Organized in 1886. The faculty embraces eleven professors, nine clinical professors, three demonstrators, one assistant demonstrator, eleven assistants to chairs, and one prosector to chair of anatomy,

Course of Instruction: The session of 1886-87 began on the first Tuesday in October and will end on the last Thursday in March. Instruction imparted by didactic and clinical lectures, recitations, demonstrations, laboratory work and practice in diagnosis. Lectures to be illustrated by clinical cases, charts, manikins, models, prepared specimens, dissections, experiments, microscopic and practical demonstrations. A three-years' graded course is recommended, but not required,

Lectures embrace materia medica and therapeutics, chemistry, histology, anatomy, physiology, hygiene, principles and practice of medicine, principles and practice of surgery, obstetrics, clinical medicine and surgery, orthopedic surgery, surgery of genito-urinary organs, ophthalmology, otology, laryngology, dermatology, diseases of women and children, mental and nervous diseases, medical jurisprudence and microscopy.

Requirements: For admission—"Students will be required to show the possession of an education, sufficiently comprehensive to enable them to pursue the study of medicine with advantage. A preliminary examination will not be required of those holding degrees from recognized colleges, nor diplomas from normal or high schools in good standing, or certificates from examiners of any county medical society conforming to the requirements of the Pennsylvania State Medical Society, or having passed the matriculation examination of any other regular medical college in good standing."

For graduation: 1) twenty-one years of age and of good moral character; 2) must have studied medicine three years and have taken at least two full courses of lectures; 3) satisfactory examination in all branches taught in the college.

Fees: Matriculation, annually, $5; lectures and clinics, $100; demonstrator, $10; graduation, $25,

RHODE ISLAND.

MEDICAL DEPARTMENT OF BROWN UNIVERSITY.

PROVIDENCE, R. I.

ORGANIZED in 1811. "Lectures were delivered and classes graduated annually from 1814 to 1827, inclusive, except the years 1820-21, when it is believed that no classes were graduated. The department fell under President Wayland's strict rules of discipline, enforced on the medical professors." (G. W. PARSONS, M. D., Providence.)

According to another correspondent, "Dr. Wayland's new rules threw the medical school overboard in 1827."—[GEO. W. HERSEY, M. D., Secretary, Rhode Island Medical Society.]

SOUTH CAROLINA.

MEDICAL COLLEGE OF SOUTH CAROLINA.

CHARLESTON, S. C.

ORGANIZED in 1824; charter obtained in 1823. Permanently closed in 1839. During its existence its graduates amounted to 313.

Dr. J. FORD PRIOLEAU, dean of the Medical College of the State of South Carolina, writes: The Medical College of South College was organized under the auspices and control of the Medical Society of South Carolina, which elected the professors and examined the candidates for graduation of the college. In filling two vacancies the society gave offense to the members of the faculty, which was increased by a difference of opinion relative to the status of some of the applicants for graduation: and in 1833 the faculty resigned in a body, and established another school under the title of the Medical College of the *State* of South Carolina—having obtained a charter in 1832, and giving its first course in 1834. The Medical Society elected the members of the faculty of the college, which continued in activity in the city of Charleston until 1839, when, having gradually declined in number of students, the Medical College of South Carolina compromised with the Medical College of the State of South Carolina and permanently closed its doors.

MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA.

CHARLESTON, S. C. J. FORD PRIOLEAU, M. D., Dean, 89 Wentworth street.

ORGANIZED in 1833. In 1839 the Medical College of South Carolina was merged into it, the Medical College of the State of South Carolina receiving all the apparatus, buildings and other property of the former. [PRIOLEAU—see Medical College of South Carolina.] Classes were graduated annually until 1863, when operations were suspended during the war, and until 1865, when they were resumed. Classes have been graduated annually since 1865. The faculty embraces seven professors, two assistants, two instructors and two demonstrators.

COURSE OF INSTRUCTION: The session of 1886-87 began October 15, 1886, and will close early in March, 1887, embracing a period of twenty weeks. Clinics at hospital. Graded course recommended, but not required.

Lectures embrace principles and practice of surgery, medical jurisprudence, clinical surgery, pathology, practice of medicine, clinical medicine, physiology, chemistry, hygiene, anatomy, ophthalmology, otology, obstetrics, gynecology, materia medica therapeutics, microscopy, pathology, laboratory instruction (compulsory on first-course students.)

REQUIREMENTS: For admission, none.

For graduation: 1) twenty-one years of age; 2) preliminary education satisfactory to the faculty; 3) three years' study; 4) two full courses of lectures; 5) examination in all the branches. Attendance upon lectures, habits and general character must be satisfactory to the faculty.

FEES: Matriculation, $5; lectures, including demonstrator's and one hospital ticket, $100; graduation, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates,	Graduates.	Percent.
1877-78	60	17	28.3
1878-79	71	20	28
1879-80	74	23	29.7
1880-81	77	21	27
1881-82	56	19	33.9
1882-83	61	18	29.5
1883-84	80	20	25
1884-85	59	17	28.8
1885-86	*62	18	29+

Percentage of graduates to matriculates for the past nine years, *twenty-eight.*

*Not including five graduates who matriculated.

Remarks: Pharmacy students are included in the number of matriculates here given prior to the session of 1885-86, thus affecting the proportion of graduates to matriculates.

UNIVERSITY OF SOUTH CAROLINA, MEDICAL DEPARTMENT.

Columbia, S. C.

Organized in 1866.—Extinct in 1876.

TENNESSEE.

MEDICAL DEPARTMENTS OF THE UNIVERSITY OF NASHVILLE AND VANDERBILT UNIVERSITY.

Nashville, Tenn. W. L. Nichol, M. D., Registrar, Cor. Cedar and High streets.

Organized in 1850, as the Medical Department of the University of Nashville, and assumed its present relation in 1874. The first class was graduated by the University of Nashville in 1852; and the first diploma was issued by the Vanderbilt University in 1875. Classes have been graduated annually by the respective universities since these dates.

The faculty embraces ten professors, six lecturers and two demonstrators.

Course of Instruction: The course of 1886-87 opened with a preliminary session commencing September 6, 1886, and continued until the opening of the winter session October 4, which ends on the last Thursday of February, 1887. A three-years' graded course is recommended, but not required. Daily examinations held by professors. Clinics at hospital.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, ophthalmology and otology, psychology, histology, pharmacy, and toxicology.

Requirements: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) three years' study; 4) two full courses of lectures; 5) dissection during one session.

Fees: Matriculation, $5; demonstrator, $10; lectures, $75; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1879-80	311	141	45.3
1881-82	327	191	58
1882-83	246	116	47+
1883-84	180	93	51.7
1884-85	181	73	40.3
1885-86	*231	105	45.4

Percentage of graduates to matriculates for past six years, *forty-eight.*

*Not including seven graduates who matriculated.

JEFFERSON MEDICAL ASSOCIATION.

DANDRIDGE, Tenn.

IN 1851, this association obtained a charter from the Legislature of Tennessee giving it power to confer the degree of M. D. upon applicants who would present themselves before the members of said association for thorough examination and if the examination was satisfactory to these gentlemen they could grant them a diploma. The degree of M. D. was conferred upon five persons a number of years ago. No degree has been conferred of late years, the association simply exercising the functions of a Medical Society. A diploma granted by this association in 1869 was recently filed for record in Indiana.

MEMPHIS MEDICAL COLLEGE.

Medical Department, Cumberland University.

MEMPHIS, Tenn.

ORGANIZED in 1851. Lectures were suspended from 1861 to 1868. A reorganization was effected in June, 1868, and a session was held every winter until the close of the session of 1872-3, when it became extinct.

BOTANIC MEDICAL COLLEGE.

MEMPHIS, Tenn.

ORGANIZED in 1857, and became extinct in 1861.

SHELBY MEDICAL COLLEGE.

NASHVILLE, Tenn.

ORGANIZED in 1858.—Extinct 1862.

MEDICAL DEPARTMENT, UNIVERSITY OF TENNESSEE.

Nashville Medical College.

NASHVILLE, Tenn. DUNCAN EVE, M. D., Dean of the Faculty, 301 Church street.

ORGANIZED in 1876. Became connected with the University of Tennessee in 1880. The first class was graduated in 1878. Classes have been graduated each subsequent year.

The faculty embraces twelve professors and two demonstrators.

COURSE OF INSTRUCTION: The session of 1886-87 began September 6, 1886, with a preliminary course, which continued until the beginning of the regular winter course, October 4, 1886, the latter continuing five months. Provision is made for a three-years' graded course, which, however, is not obligatory. "The instruction at this college consists of didactic lectures with demonstrations, clinical teaching, examinations or quizzes, and practical teaching in subjects involving manipulation, by the regular faculty."

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and gynecology, hygiene, medical jurisprudence, genito-urinary and venereal diseases, toxicology, diseases of children, oral surgery, ophthalmology and otology, pathology and laryngology.

REQUIREMENTS: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) dissections during attendance in this school; 5) satisfactory examination by the faculty.

FEES: Matriculation (paid but once), $5; demonstrator, $10; lectures, $75; graduation, $25.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877 78	125	—	—
1878-79	132	—	—
1879-80	167	52	31+
1880-81	134	55	41+
1881-82	144	69	48—
1882-83	133	58	43.6
1883-84	167	62	31 7
1884-85	171	57	33 3
1885-86	*174	56	32.1

Percentage of graduates to matriculates for past seven years, *thirty-seven.*

*Not including seven graduates who matriculated.

MEHARRY MEDICAL DEPARTMENT OF CENTRAL TENNESSEE COLLEGE.

Nashville, Tenn. G. W. **Hubbard**, M. D., Dean of the Faculty.

Organized in 1876. The first class was graduated in 1877. Devoted to the education of colored students, male and female.

The faculty embraces seven professors, one assistant professor and one demonstrator.

Course of Instruction: The session of 1886-87 began October 4, 1886, and ends February 24, 1887. A three-years' graded course is required. Recitations in anatomy, chemistry and physiology with laboratory work during first year's attendance.

Lectures embrace anatomy physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, surgery, obstetrics and gynecology, medical jurisprudence, histology, botany, pharmacy, ophthalmology, otology, toxicology, dermatology, electro-therapeutics and hygiene.

Requirements: For admission—"Applicants must be at least eighteen years of age, of good moral character, and pass examinations in arithmetic, geography, grammar, reading, writing and spelling, and elementary physics. Graduates of other recognized colleges and normal schools will, on presenting their diplomas, be admitted without examination."

For graduation: 1) twenty-one years of age; 2) three years' study; 3) two full courses of lectures; 4) must pass a satisfactory written examination in all the branches laid down in this course, "including the outlines of Bible history and doctrine;" 5) present an acceptable original thesis on some medical subject.

Fees: Tuition, $30; graduation, $10; materials for practical anatomy and chemistry at cost.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	18	3	16.6
1878-79	22	8	36.3
1879-80	22	8	36.3
1880-81	35	3	8 5
1881-82	29	8	27.6
1882-83	30	5	16 6
1883-84	31	8	25.8
1884-85	38	8	21
1885-86	49	10	20.4

Percentage of graduates to matriculates for the past nine years, *twenty-two.*

MEMPHIS HOSPITAL MEDICAL COLLEGE.

Medical Department Southwestern Baptist University.

Memphis, Tenn. W. B. **Rogers**, M.D., Dean, 69 Madison street,

Organized in 1880. The first class was graduated in 1881.

The faculty embraces ten professors and one demonstrator.

Course of Instruction: The annual session of 1886-87 began the first Monday in October, 1886, and closes March 1, 1887. Daily quizzes by the professors. Clinical lectures at hospital and college.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, ophthalmology, otology and laryngology, toxicology, diseases of the nervous system, diseases of women and children, and pharmacy.

REQUIREMENTS: For admission, none.

For graduation: 1) twenty-one years of age; 2) good moral character; 3) two full courses of lectures; 4) dissection during one session; 5) thesis; 6) satisfactory examination in all branches taught.

FEES: Matriculation, $5; lectures, $50; demonstrator, $10; graduation, $30.

STUDENTS: Number of matriculates and of graduates at each session since the organization of the college, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1880-81	52	18	34.6
1881-82	70	30	42 8
1882-83	73	31	42.4
1883-84	58	22	38
1884-85	71	31	43.6
1885-86	90	37	41.1

Percentage of graduates to matriculates for past six years, *forty*.

TEXAS.

TEXAS MEDICAL COLLEGE AND HOSPITAL.

GALVESTON, Tex.

ORGANIZED in 1864.—Reorganized in 1873. Formerly known as the Galveston Medical College. The last course of lectures was delivered in 1880-81.

UTAH.

MEDICAL INSTITUTION OF MORGAN CITY.

MORGAN CITY, U. T.

EXTINCT.

VERMONT.

VERMONT ACADEMY OF MEDICINE.

CASTLETON, Vt.

ORGANIZED in 1818. Suspended instruction from 1837 to 1841.—Extinct since 1861. During its existence it graduated 350 students.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT.

BURLINGTON, Vt. A. P. GRINNELL, M. D., Dean of the Faculty.

ORGANIZED in 1823. The first class was graduated in 1823. Sessions were held and classes graduated annually, excepting in 1835, until 1837, when the sessions were suspended. In 1854 the department was reorganized. A class was graduated in 1854, and in each subsequent year.

The faculty embraces nine professors, seven professors of special subjects, and a demonstrator.

COURSE OF INSTRUCTION: The regular session begins the first Thursday in March and continues twenty weeks. A preliminary course, opening the first Thursday in November, precedes the regular course each year, and continues to the following March. A three-years' graded course is recommended, but not required. Clinics at hospital and dispensary.

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, medical jurisprudence, diseases of the nervous system, ophthalmology and otology, dermatology, diseases of children, venereal diseases and laryngology.

REQUIREMENTS: For admission, none.

For graduation: 1) twenty-one years of age; 2) three years' study; 3) two full courses of lectures, in different years, of twenty weeks each; 4) good moral character; 5) satisfactory examination before the faculty and State Medical Board of Examiners.

FEES: Matriculation, $5; lectures, $75; final examination, $25.

STUDENTS: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent
1878	108	33	30+
1879	140	49	35—
1880	143	53	3 +
1881	171	50	29+
1882	190	85	44.7
1883	204	68	33.3
1884	230	100	40.3
1885	191	73	40.8
1886	163	52	31.9

Percentage of graduates to matriculates for past nine years, *thirty-six*.

VERMONT MEDICAL COLLEGE.

WOODSTOCK, Vt.

ORGANIZED in 1827, under the name of the Clinical School of Medicine, by Dr. Joseph A, Gallup, and was under his management until 1835. For several years the degrees were conferred by the Waterville College, Maine. In 1830 an arrangement was made with the Middlebury College, Vermont, and the degrees were conferred by that institution up to 1836. In 1835 the State Legislature passed an act incorporating the Vermont Medical College. By this act the Supreme Court was directed to appoint a Board of Examiners. The school was quite prosperous and well patronized; had a strong faculty. and more than one hundred students in 1850-51-52-53.

Professor B. R. Palmer, Dean of the Faculty and Professor of Anatomy, removed to Louisville, Kentucky, in 1854. He was the leading spirit in the institution and in 1856 the school became extinct.

VIRGINIA.

MEDICAL EXAMINING BOARD OF VIRGINIA.

CHARLOTTESVILLE, Va, [HUGH T. NELSON, M. D., Secretary.

ORGANIZED November 15, 1884. The law first became operative January 1, 1885.

COMPOSITION OF THE BOARD: The Board consists of three physicians from each Congressional district in the State; and two from the State at large, making thirty-two members, and in addition also five homeopathic physicians, members of the Board, except homeopaths are nominated by the State Medical Society and appointed by the Governor.

PERSONS REQUIRED TO BE EXAMINED: Every applicant for the practice of medicine in Virginia, who has not been assessed with a licensed tax as a physician or surgeon in this State at some time prior to January 1, 1885, is required to pass a satisfactory examination before he can commence practice. Graduates and non-graduates are subjected to the same examination.

APPLICATION FOR EXAMINATION: Any person wishing to be examined with the view of practicing medicine in Virginia is required to fill out and file with the Secretary of the Board a form of application stating: 1) age; 2) residence; 3) college where graduated (if a graduate), and date of graduation. The application must be accompanied by recommendations from two citizens of the county in which applicant resides and a fee of five dollars.

MODE OF CONDUCTING EXAMINATION: Examinations may be held by the Board in session, which is held regularly twice each year, or during the recess of the Board, by any three individual members thereof whom the applicant may select; when before three individual examiners a separate and distinct examination on all the branches before each examiner is required. The PLAN OF EXAMINATION is as follows:

1. Examination questions and answers are to be in writing or printing.

2. The applicant is required to answer at least three-fourths (75%) of the questions satisfactorily, and show a fair general knowledge of all the branches upon which he is examined.

3. Applicants can neither give nor receive information relating to the subjects under consideration during the examination.

4. No examiner is permitted to tell the applicant the result of his examination until after the examinations are all over and have been passed upon by the Board.

The examinations are in: 1) chemistry; 2) anatomy; 3) physiology; 4) hygiene; 5) medical jurisprudence; 6) materia medica and therapeutics; 7) obstetrics; 8) gynecology; 9) practice of medicine; 10) surgery.

The examiners report the result to the President of the Board who issues the license or notifies the candidate of his rejection, as the case may be.

The Virginia laws require that no person shall be rejected on account of his adherence to any particular school of medicine or system of practice.

Number of applicants examined since the law went into effect on January 1, 1885, is ninety-four. Of this number twenty were rejected Of the seventy-four who passed satisfactory examinations two were non-graduates. Of the twenty who were rejected all but two were graduates of colleges in good standing. But two homeopathic physicians have been examined. Both of these were examined by regular physicians and passed satisfactory examinations.

UNIVERSITY OF VIRGINIA, MEDICAL DEPARTMENT.

Charlottesville, Albermarle County. **Charles S. Venable**, LL. D., Chairman of the Faculty.

Organized in 1825. The first class graduated in July, 1828. There was no graduating class in 1862. The faculty embraces five professors and a demonstrator of anatomy.

Course of Instruction: One annual graduating session of nine months' duration. The session of 1886-87 began October 1, 1886, and will close June 30, 1887. Daily examinations on the subjects of preceding lectures. Course is graded, extending over two years. Lectures embrace anatomy, physiology, chemistry, materia medica, theory and practice of medicine, obstetrics, medical jurisprudence, surgery and pharmacy. "The arrangement of the lectures is such that the student acquires a competent knowledge of anatomy, physiology and chemistry before he enters upon the study of the principles and practice o medicine and surgery."

Requirements: For admission, none.

For graduation: "The degree of Doctor of Medicine is conferred upon such students as approve their fitness for the same by rigid and searching examinations. The daily examinations are taken into account in determining the fitness of a student for graduation."

Fees: Matriculation and use of library, $20; tuition, $110; graduation, $15;

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1877-78	—	17	—
1878-79	—	21	—
1879-80	—	12	—
1880-81	57	13	22.8
1881-82	34	12	32.3
1882-83	56	16	28.6
1883-84	41	17	41.4
1884-85	42	15	35.7
1885-86	62	17	27.4

Percentage of graduates to matriculates for past six years, *thirty*.

MEDICAL SCHOOL OF THE VALLEY OF VIRGINIA.

Winchester, Va.

Organized in 1826. Lectures were probably delivered until the breaking out of the war, 1861, although no information is at hand regarding the date of its extinction.

MEDICAL COLLEGE OF VIRGINIA.

Richmond, Va. **M. L. James**, M. D., Dean of the Faculty.

Organized in 1838 as the Medical Department of Hampden Sidney College, under which name it continued until 1854, when a new charter was obtained and the present name assumed. The first class was graduated in 1840. Classes have been graduated each subsequent year. The faculty embraces eleven professors, nine adjunct professors, and one demonstrator.

Course of Instruction: One annual course of six months' duration. The forty-ninth annual session began October 4, 1886. Daily examinations by each professor or assistant. Clinics at hospital. "The instruction consists of didactic lectures with demonstrations, clinical teaching, recitations, examinations and practical teaching in subjects involving manipulation."

Lectures embrace anatomy, physiology, chemistry, materia medica and therapeutics, theory and practice of medicine, pathology, surgery, obstetrics and gynecology, hygiene, diseases of the eye, ear and throat.

Requirements: For admission—"No student applying for matriculation will be admitted, if, in the opinion of the faculty, his preliminary education is insufficient to justify his entering on the study of medicine."

For graduation: 1) two full courses of lectures; 2) dissected all parts of a subject; 3) satisfactory examination upon all subjects taught in the college; 4) thesis.

Fees: Matriculation, $5; lectures, $120; demonstrator, $10; examination for degree, $30.

Students: Number of matriculates and of graduates at each session reported, and percentages of graduates to matriculates—

Session.	Matriculates.	Graduates.	Percent.
1881-82	—	13	—
1882-83	61*	9	14.7
1883-84	91*	33†	36.2
1884-85	66	19	28.8
1885-86	72	17	23.6

Percentage of graduates to matriculates for past four years, *twenty-six.*

*Includes pharmacy students. †Includes one pharmacy graduate.

WASHINGTON TERRITORY.

UNIVERSITY OF WASHINGTON TERRITORY, MEDICAL DEPARTMENT.

Seattle, W. T. Thomas T. Miner, M. D., President of the Faculty.

Organized in 1885. No lectures were given last year. The school is expected to open in 1887.

WISCONSIN.

MILWAUKEE COLLEGE OF PHYSICIANS AND SURGEONS.

Milwaukee, Wis.

Incorporated in 1881. Fraudulent. Known also as the "Coney Medical Institute." Exposed by the Illinois State Board of Health in June, 1883. Charter annulled in October, 1883.

Auxiliary, Polyclinic and Post-Graduate Institutions and Courses.

AUXILIARY DEPARTMENT OF MEDICINE, UNIVERSITY OF PENNSYLVANIA.

PHILADELPHIA, Pa. J. T. ROTHROCK, M. D., B. S., Dean, Westchester, Pa.

ORGANIZED in 1865. The faculty consists of five professors.

COURSE OF INSTRUCTION: Although strictly collateral to medicine, and essential to the thorough education of the physician, the course is largely scientific in its character, and the degree of Bachelor of Science (B. S.) is conferred upon those graduates in medicine of the University, or of other recognized schools, who attend two full courses of lectures in the Auxiliary Department, pass a satisfactory examination before the faculty, and present an original thesis on some one of the subjects taught.

Lectures comprise medical jurisprudence and toxicology; mineralogy and geology; (including a practical course on mineralogical and geological chemistry); botany; hygiene, comparative anatomy and zoölogy. The session begins the first Monday in October and ends in May. The professor of comparative anatomy conducts, during the summer months, at a place on the Atlantic coast, a practical laboratory for special work in the subjects of his chair.

FEES: The lectures are free to students and graduates of the Department of Medicine of the University of Pennsylvania; to other matriculates, $15 for each professor's ticket, or $35 for the course; graduation, $10.

There were 23 students in attendance at last session.

NEW YORK POLYCLINIC.

NEW YORK CITY. JOHN A. WYETH, M.D., Secretary, 214 and 216 East Thirty-fourth street.

ORGANIZED in 1882. The faculty consists of seventeen professors, twenty-three instructors and forty assistants.

COURSE OF INSTRUCTION: The winter session of 1886-87 began September 20, 1886, and will continue into the month of June, 1887. The summer session will open at the expiration of the regular session in June, 1887, and will continue into September.

Clinics are held daily throughout the year in diseases of the chest—of children—of general medicine—of the mind and nervous system—of the skin—of women—general and orthopedic surgery, ophthalmology, four each week—laryngology and rhinology, two each week; otology, obstetrics, genito-urinary diseases and physiological chemistry will also receive much attention. The chair of pathological histology and state medicine has recently been added, and a new laboratory equipped for the purpose of such instruction.

FEES: General ticket for the year, $350; general ticket for six months, $250. Special courses, $15, excepting diseases of the chest and general medicine, $25; general genito-urinary and orthopedic surgery, $35; diseases of women, $35; throat, nose and ear, $20; surgical operations upon the cadaver, $5.

REMARKS: This is strictly a school of clinical medicine and surgery. There are no didactic lectures, and none but practitioners admitted.

A Patho-Biological Laboratory has been fitted up in which special attention is paid to teaching bacteria culture.

During the session of 1885-86 there were 240 physicians in attendance.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

New York City. F. R. Sturgis, M. D., Secretary, 226 East Twentieth street.

Organized in 1882. The faculty consists of twenty-two professors, four associate professors, twenty instructors and thirty-six assistants.

Course of Instruction: The regular term began September 15, 1886, and continues until June 15, 1887; the summer term begins June 15, 1887, and continues until September 15.

Lectures are all clinical and include the following courses: Clinical and orthopedic surgery and mechanical therapeutics; operative surgery; diseases of the nervous system and electro-therapeutics; anatomy and physiology of the nervous system, ophthalmology and otology; diseases of the nose and throat; pathology; physical diagnosis and clinical medicine; urinary analysis; histology; pathological histology; diseases of children; obstetrics and gynecology; obstetrics; venereal and skin diseases; applied anatomy; practical pharmacy and medical chemistry; military, naval and state hygiene; diseases of women.

Fees: Annual ticket, $350; semi-annual ticket, $250; ticket for three months, $150 special courses, of six weeks each, $10 to $35.

During the session of 1885-86 there were 160 students in attendance.

PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE.

Philadelphia, Pa. R. F. Baer, M. D., Dean, Broad and Lombard streets.

Organized in 1882. The faculty consists of thirteen professors, one adjunct professor, two instructors and twenty-five assistants.

Course of Instruction: Clinical and practical instruction in medical and surgical specialties is afforded, to physicians only, during the whole year. In addition to the clinical facilities of the college, the professors utilize, for purposes of instruction, their services in the Philadelphia, Pennsylvania, Wills, Howard, Episcopal, Presbyterian, German, St. Mary's and St. Christopher's hospitals. Clinical instruction is given in electro-therapeutics, and well-appointed laboratories furnish opportunity for practical work in chemistry, anatomy, pathology, microscopy and surgery.

Fees: General ticket for one year, $300; special courses for six weeks' duration, each $15, or any two courses for $20.

Remarks: Students, after finishing a complete course, may, by examination, become Fellows of the College.

COLLEGE FOR MEDICAL PRACTITIONERS.

St. Louis, Mo.

Organized in 1882—Extinct, 1884.

THE CLEVELAND POLYCLINIC AND POST-GRADUATE MEDICAL SCHOOL.

Cleveland, O.

Organized in 1884—Extinct, 1885.

BALTIMORE POLYCLINIC AND POST-GRADUATE MEDICAL SCHOOL.

Baltimore, Md.

Organized in 1884—Extinct.

DEPARTMENT OF BIOLOGY OF THE UNIVERSITY OF PENNSYLVANIA.

PHILADELPHIA, Pa. HORACE JAYNE, M. D., Secretary.

ORGANIZED in 1885. The faculty consists of five professors and two instructors.

COURSE OF INSTRUCTION: Extends through two years of two terms each, and consists of practical laboratory exercises accompanied by explanatory lectures. No degrees are conferred.

Studies embrace: First year—General biology, mammalian anatomy and botany. Second year—Botany, zoölogy, animal histology, embryology and physiology.

FEES: For full course, $150; for partial courses, $25 to $90.

CHICAGO POLYCLINIC.

CHICAGO, Ill. WILLIAM T. BELFIELD, M. D., Secretary, 612 Opera House Block.

ORGANIZED in 1886. The faculty consists of fifty-six professors and assistants.

COURSE OF INSTRUCTION: Systematic courses of daily clinical instruction, embracing all departments of practical medicine and surgery at the hospital and dispensary of the Polyclinic. These courses will be of about six weeks' duration and will be continued throughout the year. The teaching will be entirely clinical, didactic and formal lectures on practical branches being strictly excluded. Tickets may be taken out at any time, each good for one continuous course of six weeks from date of issue.

FEES: Matriculation, (paid but once) $5. Special courses of six weeks duration, $10 to $30. A reduction of ten per cent. is made on three courses taken by one person, and of twenty per cent. when five or more courses are taken. General ticket, good for six weeks, $100; for three months, $150; for six months, $250; for one year, $300.

ST. LOUIS POST-GRADUATE SCHOOL OF MEDICINE.

ST. LOUIS, Mo. A. J. STEELE, M. D., Secretary, 2825 Washington avenue.

ORGANIZED in 1886. The faculty consists of ten professors and seventeen clinical assistants.

COURSE OF INSTRUCTION: The first course of instruction began on March 1, and continued until April 12. From this date the instruction in six-weeks courses continued until July 3. The regular winter course commenced October 25.

Lectures embrace practical medicine and principles of diagnosis, surgery and genito-urinary diseases, diseases of the skin, diseases of the chest and throat, ophthalmology and otology, orthopedic surgery and joint diseases, diseases of women, nervous diseases and diseases of children.

FEES: One course of six weeks, $100; 12 weeks, $150; 18 weeks, $200; whole year, $225. Single department, six weeks, $25; two departments, $45; three departments, $60; each additional department, six weeks, $10. Special classes on operative surgery—limited to four members, term of six weeks, $100.

POST-GRADUATE MEDICAL SCHOOL OF CHICAGO.

CHICAGO, Ill. W. J. MAYNARD, M. D., Secretary, 592 W. Van Buren street.

ORGANIZED in 1886. The faculty consists of eighteen professors, and twenty-four instructors, lecturers and assistants.

COURSE OF INSTRUCTION: The course of instruction covers a period of twelve weeks divided into two equal terms. The first term for 1886 began June 15; the second July 27.

Lectures embrace surgery, medicine, obstetrics, diseases of children, gynecology, diseases of the throat and chest, diseases of the nervous system, diseases of the eye and ear, skin and venereal diseases, dental and oral surgery, diseases of the rectum, chemistry of the urine, pathology and pathological anatomy.

FEES: Matriculation, each year, $5. General ticket, each year, $30, admitting to all public clinics given in Rush Medical College and Cook County Hospital, to daily clinics in Central Dispensary and to all didactic lectures, but not to special courses. Any practitioner taking three special courses, fee for general ticket will be $15; four special courses, fee will be $10. Fees for special courses, $10 to $15. To any practitioner desiring to take all the special courses, the fee covering all expenses except matriculation will be $100.

Remarks: The public clinics in Rush Medical College, which are given throughout the year, are, by courtesy of the faculty of the College, thrown open to the attendants upon the Post-Graduate Medical School.

CHICAGO OPTHALMIC COLLEGE.

Chicago, Ill. Isidor Gluck, Secretary, 605 W. VanBuren street.

Incorporated March 19, 1886. The faculty consists of six professors and four associates.

Course of Instruction: "This school is designed for graduates in medicine who desire to further perfect their knowledge of ophthalmology, otology and collateral branches. A special course of instruction will be given to those who wish to become qualified as practical opticians. The two courses will be essentially distinct and a separate certificate or diploma will be issued to the graduates in each. A course of lectures will begin the first Tuesday of each month and continue daily (except Sunday), for four weeks."

Requirements: For graduation—Post Graduate Course: 1) good moral character; 2) graduation from a reputable medical college; 3) at least one full course of lectures at this college; 4) satisfactory examinations. Optician's Course: 1) good English education; 2) good moral character; 3) one or more courses of lectures in this college; 4) satisfactory examinations.

Fees: Post Graduate Course: For first course, $30; each additional course, $15; ticket to Illinois Eye and Ear Infirmary (optional), $5. Optician's Course: For first course, $50; each additional course, $25.

The following named institutions also have post-graduate courses or other facilities for instruction for practitioners:

Hahnemann Medical College, Chicago, Ill.—A six-weeks' course; fees, $30.

Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.—A six-weeks' course; fees, $25.

University of Maryland, School of Medicine, Baltimore, Md.—A six-weeks' course; fees, $7 to $20 for each branch.

Harvard University, Medical School, Boston, Mass.—Six months' courses, in histology ($20), physiology ($30), medical chemistry ($30), pathological anatomy ($20), surgery ($25), laryngology ($25), ophthalmology ($25), otology ($15), dermatology ($25,) syphilis ($15), diseases of the nervous system ($15), gynecology ($25), obstetrics ($25). Graduates of other medical schools may obtain the degree of M. D. at this University after a year's study in the graduates' course and by passing the examinations of the three-years' course. Fee for full year, $200.

Bellevue Hospital Medical College, New York City.—Private instruction in medical and in physical diagnosis ($20 each), surgical operations ($15), operative surgery ($15), physiological laboratory ($50), practical chemistry ($10), diseases of the eye and ear ($30), pathological laboratory ($15), diseases of the heart, lungs and throat ($12), laryngoscopy ($10). "Intended mainly for the benefit of practitioners."

American Eclectic Medical College, Cincinnati, O.—A ten-weeks' course; fees, $25.

LIST OF COLLEGES FOR BOTH SEXES.

The following institutions either announce that they are open to both sexes, or had both in attendance during the last session:

Cooper Medical College, San Francisco, Cal.
Medical Department of the University of California, San Francisco, Cal.
California Medical College (Eclectic,) San Francisco, Cal.
Medical Department of the University of Colorado, Boulder, Col.
Medical Department of Howard University, Washington, D. C.
National Medical College, Washington, D. C.
Georgia Eclectic Medical College, Atlanta, Ga.
Hahnemann Medical College, Chicago, Ill.
Quincy Medical College, Quincy, Ill.,
Bennett College of Eclectic Medicine and Surgery, Chicago, Ill.
Physio-Medical Institute, Chicago, Ill.
Fort Wayne College of Medicine, Fort Wayne, Ind.

Physio-Medical College, Indianapolis, Ind.
Indiana Eclectic Medical College, Indianapolis, Ind.
College of Physicians and Surgeons, Keokuk, Ia.
Medical Department of the State University of Iowa, Iowa City, Ia.
Homeopathic Medical Department of the State University of Iowa, Iowa City, Ia.
Iowa Medical College (Eclectic,) Des Moines, Ia.
Iowa College of Physicians and Surgeons, Des Moines, Ia.
Eclectic Medical College of Maine, Lewiston, Me.
Boston University School of Medicine, Boston, Mass.
College of Physicians and Surgeons, Boston, Mass.
Department of Medicine and Surgery of the University of Michigan, Ann Arbor, Mich.
Homeopathic Medical College of the University of Michigan, Ann Arbor, Mich.
Minnesota Hospital College, Minneapolis, Minn.
American Medical College (Eclectic,)St. Louis, Mo.
Homeopathic Medical College of Missouri, St. Louis, Mo.
Kansas City Hospital College of Medicine, Kansas City, Mo.
Omaha Medical College, Omaha, Neb.
College of Medicine of the University of Nebraska, Lincoln, Neb.
College of Medicine (Homeopathic Dep't.) University of Nebraska, Lincoln, Neb.
College of Medicine of the Syracuse University, Syracuse, N. Y.
Leonard Medical School, Raleigh, N. C.
Homeopathic Hospital College, Cleveland, O.
Eclectic Medical Institute, Cincinnati, O.
Medical Department of the University of Wooster, Cleveland, O.
Pulte Medical College, (Homeopathic,) Cincinnati, O.
Columbus Medical College, Columbus, O.
American Eclectic Medical College, Cincinnati, O.
Toledo Medical College, Toledo, O.
Medical Department of the Willamette University, Portland, Or.

LIST OF COLLEGES FOR WOMEN ONLY.

Woman's Medical College, Toronto Ont.
Woman's Medical College, Kingston, Ont.
Woman's Medical College, Chicago, Ill.
Woman's Medical College, Baltimore, Md.
New York Medical College and Hospital for Women (*Homeopathic*,) New York City.
Woman's Medical College of the New York Infirmary, New York City.
Woman's Medical College of Pennsylvania, Philadelphia, Pa.

LIST OF COLLEGES FOR COLORED STUDENTS.

Leonard Medical College, Raleigh, N. C.
Meharry Medical Department of Central Tennessee College, Nashville, Tenn.

The Medical Department of Howard University, Washington D. C., is open to all, "without distinction of sex or race."

LIST OF COLLEGES WHICH CONFER DEGREES UPON ATTENDANCE ON SUMMER SESSIONS.

Cooper Medical College. Session begins June 1, and closes October 31.

University of California, Medical Department, San Francisco, Cal. Session begins March 1, and closes November 31,

Hahnemann Medical College, San Francisco, Cal. Session begins first Tuesday in May and continues six months.

Kentucky School of Medicine, Louisville, Ky. Session begins February 9, and closes June 20.

Hospital College of Medicine, Louisville, Ky. Session begins in January, and closes in June.

Medical School of Maine, Brunswick, Me. Session begins February 3, and closes June 23.

Medical Department of Dartmouth College, Hanover, N. H. Session begins July 14, and closes December 1.

Eclectic Medical Institute, Cincinnati, O. Session begins January 15, and closes June 7.

Medical Department of the University of Wooster, Cleveland, O. Session begins March 2, and continues five months.

Medical Department of the University of Vermont, Burlington, Vt. Session begins first Thursday in March and continues twenty weeks.

THE ILLINOIS MEDICAL-PRACTICE ACT.

AN ACT TO REGULATE THE PRACTICE OF MEDICINE IN THE STATE OF ILLINOIS. Approved May 29, 1877. In force July 1, 1877.

ADMISSION TO PRACTICE MEDICINE: SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly*: That every person practicing medicine, in any of its departments, shall possess the qualifications required by this act. If a graduate in medicine, he shall present his diploma to the STATE BOARD OF HEALTH * * * for verification as to its genuineness. If the diploma is found genuine, and if the person named therein be the person claiming and presenting the same, the STATE BOARD OF HEALTH * * * shall issue its certificate to that effect, signed by all of the members thereof, and such diploma and certificate shall be conclusive as to the right of the lawful holder of the same to practice medicine in this State. If not a graduate the person practicing medicine in this State shall present himself before said BOARD, and submit himself to such examinations as the said BOARD shall require; and, if the examination be satisfactory to the examiners, the said BOARD shall issue its certificate in accordance with the facts, and the lawful holder of such certificate shall be entitled to all the rights and privileges herein mentioned.

SEC. 2. [This section is omitted as void, by reason of the passage, at the same session, of the act establishing a STATE BOARD OF HEALTH, which see following. The section refers to the mode of providing boards of examiners in the absence of such STATE BOARD. The omissions indicated by asterisks in section 1, and in the remaining sections, also have reference to this provision for other boards.]

ORGANIZATION, DUTIES AND POWER OF STATE BOARD: Sec. 3. The STATE BOARD OF HEALTH * * * shall organize within three months after the passage of this act; they shall procure a seal, and shall receive through their Secretary applications for certificates and examinations: the President * * * shall have authority to administer oaths, and the BOARD to take testimony in all matters relating to their duties: they shall issue certificates to all who furnish satisfactory proof of having received diplomas or licences from legally chartered medical institutions in good standing: they shall prepare two forms of certificates, one for persons in possession of diplomas or licenses, the other for candidates examined by the BOARD: they shall furnish to the county clerks of the several counties a list of all persons receiving certificates. In selecting places to hold their meetings they shall, as far as is reasonable, accommodate applicants residing in different sections of the State, and due notice shall be published of all their meetings. Certificates shall be signed by all the members of the BOARD granting them. * * *

VERIFICATION OF DIPLOMAS: FEE AND PENALTY: Sec. 4. Said STATE BOARD OF HEALTH * * * shall examine diplomas as to their genuineness, and if the diploma shall be found genuine as represented, the Secretary of the STATE BOARD OF HEALTH * * * shall receive a fee of one dollar from such graduate or licentiate, and no further charge shall be made to the applicant; but if it be found to be fraudulent, or not lawfully owned by the possessor, the BOARD shall be entitled to charge and collect twenty dollars of the applicant presenting such diploma. The verification of the diploma shall consist in the affidavit of the holder and applicant that he is the lawful possessor of the same, and that he is the person therein named. Such affidavit may be taken before any person authorized to administer oaths, and the same shall be attested under the hand and official seal of such officer, if he have a seal. Graduates may present their diplomas and affidavits as provided in this act, by letter or by proxy, and the STATE BOARD OF HEALTH * * * shall issue its certificate the same as though the owner of the diploma was present.

EXAMINATION OF NON-GRADUATES: Sec. 5. All examinations of persons not graduates or licentiates shall be made directly by the BOARD, and the certificates given by the BOARD shall authorize the possessor to practice medicine and surgery in the State of Illinois.

CERTIFICATES MUST BE RECORDED: Sec. 6. Every person holding a certificate from the STATE BOARD OF HEALTH * * * shall have it recorded in the office of the clerk of the county in which he resides, and the record shall be endorsed thereon. Any person removing to another county to practice, shall procure an endorsement to that effect on the certificate from the county clerk, and shall record the certificate, in like manner, in the county to which he removes, and the holder of the certificate shall pay to the county clerk the usual fees for making the record.

RECORD BOOK TO BE KEPT BY COUNTY CLERK: Sec. 7. The county clerk shall keep, in a book provided for the purpose, a complete list of the certificates recorded by him, with the date of the issue. * * * If the certificate be based on a diploma or license, he shall record the name of the medical institution conferring it, and the date when conferred. The register of the county clerk shall be open to public inspection during business hours.

FEE FOR EXAMINING NON-GRADUATES: Sec. 8. Candidates for examination shall pay a fee of five dollars, in advance, which shall be returned to them if a certificate be refused. The fees received by the BOARD shall be paid into the treasury. * * *

CHARACTER OF EXAMINATION: Sec. 9. Examinations may be in whole or in part in writing, and shall be of an elementary and practical character, but sufficiently strict to test the qualifications of the candidate as a practitioner.

CERTIFICATES MAY BE REFUSED OR REVOKED: Sec. 10. The STATE BOARD OF HEALTH * * * may refuse certificates to individuals guilty of unprofessional or dishonorable conduct, and they may revoke certificates for like causes. In all cases of refusal or revocation, the applicant may appeal to the body appointing the BOARD.

DEFINITION OF "PRACTICING MEDICINE": Sec. 11. Any person shall be regarded as practicing medicine within the meaning of this act, who shall profess publicly to be a physician, and to prescribe for the sick, or who shall append to his name the letters of "M. D." But nothing in this act shall be construed to prohibit students from prescribing under the supervision of preceptors, or to prohibit gratuitous services in cases of emergency. And this act shall not apply to commissioned surgeons in the United States army and navy.

LICENSE TO ITINERANT VENDERS: Sec. 12. Any itinerant vender of any drug, nostrum, ointment or appliance of any kind, intended for the treatment of disease or injury, or who shall by writing or printing, or any other method, publicly profess to cure or treat diseases, injury or deformity by any drug, nostrum, manipulation or other expedient, shall pay a license of one hundred dollars a month, to be collected in the usual way.

PENALTIES FOR NON-COMPLIANCE WITH THIS ACT: Sec. 13. Any person practicing medicine or surgery in this State without complying with the provisions of this act, shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars, or by imprisonment in the county jail for a period of not less than thirty days, nor more than three hundred and sixty-five days, or by both such fine and imprisonment, for each and every offense; and any person filing, or attempting to file, as his own, the diploma or certificate of another, or a forged affidavit of identification, shall be guilty of a felony, and upon conviction shall be subject to such fine and imprisonment as are made and provided by the statutes of this State for the crime of forgery, but the penalties shall not be enforced till on and after the thirty-first day of December, eighteen hundred and seventy-seven: *Provided*, that the provisions of this act shall not apply to those that have been practicing medicine ten years within this State.

THE STATE BOARD OF HEALTH ACT.

AN ACT TO CREATE AND ESTABLISH A STATE BOARD OF HEALTH IN THE STATE OF ILLINOIS. Approved May 28, 1877; in force July 1, 1877.

APPOINTMENT OF MEMBERS; TERM OF OFFICE; VACANCIES: SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly*: That the Governor, with the advice and consent of the Senate, shall appoint seven persons, who shall constitute the BOARD OF HEALTH. The persons so appointed shall hold their offices for seven years: *Provided*, that the terms of office of the seven first appointed shall be so arranged that the term of one shall expire on the thirtieth day of December of each year, and the vacancies so created, as well as all vacancies occurring otherwise, shall be filled by the Governor, with the advice and consent of the Senate: *And provided, also,* that appointments made when the Senate is not in session may be confirmed at its next ensuing session.

Powers and authority of the Board: Sec. 2. The State Board of Health shall have the general supervision of the interests of the health and life of the citizens of the State. They shall have charge of all matters pertaining to quarantine; and shall have authority to make such rules and regulations, and such sanitary investigations, as they may from time to time deem necessary for the preservation or improvement of public health; and it shall be the duty of all police officers, sheriffs, constables, and all other officers and employes of the State, to enforce such rules and regulations, so far as the efficiency and success of the Board may depend upon their official co-operation.

Registration of births and deaths: Sec. 3. The Board of Health shall have supervision of the State system of registration of births and deaths as hereinafter provided; they shall make up such forms and recommend such legislation as shall be deemed necessary for the thorough registration of vital and mortuary statistics thoughout the State. The Secretary of the Board shall be the superintendent of such registration. The clerical duties and the safe-keeping of the bureau of vital statistics thus created shall be provided by the Secretary of State.

Physicians and accoucheurs to register and report: Sec. 4. It shall be the duty of all physicians and accoucheurs in this State to register their names and postoffice address with the county clerk of the county where they reside; and said physicians and accoucheurs shall be required, under penalty of ten dollars, to be recovered in any court of competent jurisdiction in the State, at suit of the county clerk, to report to the county clerk, within thirty days from date of their occurrence, all births and deaths which may come under their supervision, with a certificate of the cause of death, and such correlative facts as the Board may require, in the blank forms furnished as hereinafter provided.

Report of birth or death in absence of physician or accoucheur: Sec. 5. Where any birth or death shall take place, no physician or accoucheur being in attendance, the same shall be reported to the county clerk within thirty days from date of [its] occurrence, with the supposed cause of death, by the parent, or if none, by the nearest of kin, not a minor, of if none, by the resident householder where the death shall occur, under penalty as provided in the preceding section of this act.

Coroners to report deaths: Sec. 6. The coroners of the several counties shall be required to report to the county clerk all cases of death which may come under their supervision, with the cause and mode of death, etc., as per forms furnished, under penalty as provided in section four (4) of this act.

DISPOSITION OF PENALTIES: Sec. 7. All amounts recovered under the penalties herein provided shall be appropriated to a special fund for the carrying out of the object of this law.

COUNTY CLERKS TO KEEP REGISTERS AND RECORDS: Sec. 8. The county clerks of the several counties in the State shall be required to keep separate books for the registration of the names and post-office address of physicians and accoucheurs, for births, for marriages, and for deaths; said books shall always be open to inspection without fee; and said county clerks shall be required to render a full and complete report of all births, marriages and deaths to the Secretary of the BOARD OF HEALTH, annually, and at such other times as the BOARD may direct.

BOARD TO PREPARE FORMS FOR REPORTS: Sec. 9. It shall be the duty of the BOARD OF HEALTH to prepare such forms for the record of births, marriages and deaths as they may deem proper; the said forms to be furnished by the Secretary of said BOARD to the county clerks of the several counties, whose duty it shall be to furnish them to such persons as are herein required to make reports.

MEETINGS OF THE BOARD: Sec. 10. The first meeting of the BOARD shall be within fifteen days after their appointment, and thereafter in January and June of each year, and at such other times as the BOARD shall deem expedient. The meeting in January of each year shall be in Springfield. A majority shall constitute a quorum. They shall choose one of their number to be President, and they may adopt rules and by-laws for their government, subject to the provisions of this act.

OFFICERS AND COMPENSATION: Sec. 11. They shall elect a Secretary, who shall perform the duties prescribed by the BOARD and by this act; he shall receive a salary which shall be fixed by the BOARD; he shall also receive his traveling and other expenses incurred in the performance of his official duties. The other members of the BOARD shall receive no compensation for their services, but their traveling and other expenses, while employed on business of the BOARD, shall be paid. The President of the BOARD shall quarterly certify the amount due the Secretary, and on presentation of his certificate, the Auditor of State shall draw his warrant on the Treasurer for the amount.

ANNUAL REPORT: Sec. 12. It shall be the duty of the BOARD OF HEALTH to make an annual report, through their Secretary or otherwise, in writing, to the Governor of this State, on or before the first day of January of each year, and such report shall include so much of the proceedings of the BOARD, and such information concerning vital statistics, such knowledge respecting diseases, and such instruction on the subject of hygiene, as may be thought useful by the BOARD for dissemination among the people, with such suggestions as to legislative action as they may deem necessary.

APPROPRIATION: Sec. 13. The sum of five thousand dollars ($5,000), or so much thereof as may be necessary, is hereby appropriated to pay the salary of the Secretary, meet the contingent expenses of the office of Secretary, and the expenses of the BOARD, and all costs for printing, which, together, shall not exceed the sum hereby appropriated; said expenses shall be certified and paid in the same manner as the salary of the Secretary.

OFFICE ROOM: Sec. 14. The Secretary of State shall provide rooms suitable for the meetings of the BOARD, and office room for the Secretary.

DEAD BODIES FOR DISSECTION.

AN ACT TO PROMOTE THE SCIENCE OF MEDICINE AND SURGERY IN THE STATE OF ILLINOIS.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly*: That superintendents of penitentiaries, houses of correction and bridewells, wardens of hospitals, insane asylums and poor houses, coroners, sheriffs, jailors, city and county undertakers, and all other State, county, town and city officers in whose custody the body of any diseased person required to be buried at public expense shall be, shall give permission to any physician or surgeon (a licentiate of the STATE BOARD OF HEALTH) or to any medical college or school, public or private, of any city, town or county, upon his or their request therefor, to receive and remove free of charge or expense, after having given proper notice to relatives or guardians of the deceased, the bodies of such deceased persons to be buried at public expense, to be by him or them used within the State, for advancement of medical science, preference being given to medical colleges or schools, public or private; said bodies to be distributed to and among the same, equitably: the number assigned to each being in proportion to the students of each college or school: *Provided, however*, that if any person claiming to be, and satisfying the proper authorities that he is of kindred of the deceased, shall ask to have the body for burial, it shall be surrendered for interment: *And provided, further*, that any medical college or school, public or private, or any officers of the same, that shall receive the bodies of deceased persons for the purposes of scientific study, under the provisions of this act, shall furnish the same to students of medicine and surgery, who may be under their instruction, at a price not exceeding the sum of five dollars for each and every such deceased body so furnished.

§ 2. Any physician or surgeon (a licentiate of the ILLINOIS STATE BOARD OF HEALTH) or any medical college or school, public or private, before receiving any dead body or bodies, shall give to the proper authority, surrendering the same to him or them, a sufficient bond that said body or bodies shall be used only for the promotion of medical science within this State; and whoever shall use said body or bodies for any other purpose, or shall remove the same beyond the limits of this State, and whosoever shall sell or buy any such body or bodies or shall traffic in the same, shall be deemed guilty of a misdemeanor, and shall, on conviction, be fined in a sum of not less than one hundred dollars and be imprisoned in the county jail for a term of not less than thirty days nor more than one year: the fine accruing from such conviction, to be paid into the school fund of the county where the offense shall have been committed.

§ 3. Any officer refusing to deliver the remains or body of any deceased person when demanded in accordance with the provisions of this act, shall pay a penalty of not less than fifty dollars, nor more than one hundred dollars for the first offense, and for the second offense, a penalty of not less than one hundred dollars, nor more than five hundred dollars, and for a third offense, or any offense thereafter, the penalty of not less than five hundred dollars, or be imprisoned in the county jail not less than six or more than twelve months, or both, at the discretion of the court; such penalties to be sued for by the health department, as the case may be.

§ 4. It shall be the duty of preceptors, professors and teacher, and all officers of medical colleges or schools, public or private, who shall receive any dead body or bodies, in pursuance of the provisions of this act, decently to bury in some public cemetery, or to cremate the same in a furnace properly constructed for that purpose, the remains of all bodies, after they shall have answered he purposes of study aforesaid, and for any neglect or violation of the provisions of this act, the party or parties so neglecting shall on conviction, forfeit or pay a penalty of not less than fifty dollars, nor more than one hundred dollars, or be imprisoned in the county jail not less than six nor more than twelve months, or both, at the discretion of the court; such penalties to be sued for by school officers, or any person interested therein, for the benefit of the school fund of the county in which the offense shall have been committed.

§ 5. An act entitled "An act to promote the science of medicine and surgery in the State of Illiinois," approved February 16, 1874, in force July 1, 1874, is hereby repealed.

APPROVED June 26, 1885.

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